

TEMPLUM MUSICUM:
OR THE
MUSICAL SYNOPSIS,
OF

The Learned and Famous
Jobannes - Henricus - Alstedius,

BEING

A Compendium of the Rudiments
both of the Mathematical and
Practical Part of

MUSICK:

Of which Subject not any Book is extant in our English
Tongue.

Faithfully translated out of Latin
By *John Birchenstoa. Philomath.*

Imprimatur, Feb. 5. 1663.

Roger L'Estrange.

Printed by *Will. Godbid* for *Peter Dring* at
the *Printers* next *Dore* to the *Rose-Tavern*.

1664.



Boett fink

ADIZUM

Alfred, Johann Heinrich



To the Right Honourable
EDVWARD Lord MONTAGU
Earl of Sandwich, &c.

*Knight of the most Noble Order of
the Garter, and One of His
Majesties most Honourable
Privy-Council.*

SIR,

When I considered the
W^{orthy} Excellency of the
Subject of this *Book*,
and deserved Fame
of the learned *Author*, I thought
it not necessary to crave a Pro-
tection.

The Epistle Dedicatory.

tection for this *Treatise* by a *Dedication* of it unto any: being in it self far above the reach of detracting *Calumniators*. Yet I have made bold, humbly, to present it to your Honour as a pleasant and delightful *Diversifement* from your many and great *Employments*. In all *Ages Musick* hath been acceptable to the wisest, greatest, and most *Learned men*, of whom many have been famous for their great *Ability* and *Knowledge* in this *Science* and *Art*. It was no dispraise to *David* that he plaid *skilfully* on the *Harp*, and *Sang* well: the
Compo-

The Epistle Dedicatory.

Compositions of divers German Princes are extant: neither is it the least of those Virtues which are eminent in your Lordship, that you are both a Lover of *Musick*, and a good *Musician*. The renowned *Alstedius* in this *Compendium* (not much differing in his Judgment from the Opinion of the Generality of modern musical *Classic's*) does present the world with a great Light and Discovery of this Art, with the *Subject*, *Principle* and *Affections* thereof, with the curious *Symmetry* of Proportions: the proportional Dimensions of
Sounds :

The Epistle Dedicatory.

Sounds : the Variety of *Dia-*
tems : the admirable *Series* of
musical *Voices* : the usefulnesse
of *Tetrachords* : the several
Genus's of *Musick* : and har-
monical *Moods*, which being
expressed by *Voice* or *Instru-*
ment or both, do operate in-
credibly upon the *Affections*.
Wherefore I hope that this
Book will be accepted both by
your *Honour*, and all ingenuous
Lovers and Professors of this
Art, and the *Errors* thereof
favourably pardoned by your
Lordship and them. The *Rea-*
son which moved me to under-
take this *Translation*, was, be-
cause

The Epistle Dedicatory.

cause I desired a Discovery might be made of some Principles of the *Mathematical* part of *Musick*, unto those ingenious Lovers of this Science, who understand only our own Language, to the End that by this means the transcendent Virtue and Excellency that is comprehended in the due proportions of musical Sounds may be known unto them; which will give Satisfaction unto their *Reason* aswell as to their *Sence*. I do not think this unworthy my labour, because that many skilful Musicians have not thought it any Disparagement
to

The Epistle Dedicatory.

to publish their *Translations* of the Works of famous Men, who did write of the *Art* which they themselves professed. As *Meibomius* Translated some Fragments of *Baccheus*, *Alypius*, *Nichomachus*, and others : the never to be forgotten *Francinus*, the Commentaries of *Briennius*, *Aristides*, *Ptolomy*, and others : and our *English* *Douland*, the *Introduction* of *Ornithoparcus*. In the Author's last *Edition* of his universal *Encyclopædia*, I met with an *Appendix* to his *Musical Synopsis*, taken out of the writings of *Erycius Puteanus*; but not finding

The Epistle Dedicatory.

ing any thing new in it; only an *ABCdary Repetition* of the first Elements of *Musick*, formerly but more judiciously and largely handled in this *Compendium*: and also some few *Questions* started by *Cardanus*, which are, for the most part more fully and Satisfactorily resolved by the Author; I did forbear the Translation thereof; not being willing to weary the Reader with the unnecessary recital of those things, nor your Lordship with too tedious an Epistle, which I here conclude, humbly craving pardon for my boldnesse, and your Honours
favourable

The Epistle Dedicatory.

favourable Acceptation of this
Mite from your Lordships

Most humble

and devoted

Servant,

JOHN BIRCHENSHA.

ms

To all ingenious **LOVERS** of
MUSICK.

GENTLEMEN,



*T*was for your Profit and Benefit that I undertook this Translation: and that you might thereby understand the Rudiments and Principles both of the Mathematical and Practical Parts of this Science. We know that there is some light into the Mathematical Part of all other Arts; but little discovery of that Part of the Theory of Musick hath been made in our Language; therefore I did suppose that this work would be gratefully accepted by you, the Author having more fully discovered the Precepts, Rules, and Axioms of this Science, then any other whose Work I have seen.

Since the Rumour of this Translation hath been spread abroad, I have by diverse been demanded, What Benefit and Advantage the Knowledge of the Mathematical Part of Musick does contribute to the completing of a Musician? To which I answer, That it is as necessary for a perfect and complete Musician to under-

A.

To the Reader.

understand the Proportion of Sounds, as for a curious Painter, exactly to know the Symmetry of every part of a Body: that so he may rightly understand the ground and foundation of the Art he does profess, which is, the nature of Sounds, and their due Proportion, in respect of their Ration, Habitude, Quality, Difference, Excess, Dimension, and Magnitude. For this I dare boldly affirm, and if Occasion be offered, undertake to prove, it: That such Rules may be yet further, and are already, in part, contrived (drawn from the Mathematical Principles of Musick, by which, musical Consonants and Dissonants (artificially applied and disposed, according to the nature of their Proportions, and by the forementioned Canons) may afford, in 2, 3, 4, 5, 6, 7, or more parts, as good Musick, that is agreeable, artificial, and formal, as can be composed by the help of any Instrument. Yet until such Rules be known, it is commendable in any to use such helps as may Advantage their Compositions. But for any Musician to undervalue or speak slightly of the Mathematical part of Musick, is to reproach the Common Parent from whom the Art he professeth received a Being. I know that all Ingenious persons who are Artists, will acknowledge that it is a more noble way to work by Rules and Precepts in any Art, then mechanically; And so to work in this Art, i. e. to compose regularly, will be found more advantageous then any other way in these Respects. For by such a way of Operation the Composer shall work more certainly, firmly, readily, and with more facility then by any other way.

If Musick be an Art, then it may be contracted
and

To the Reader.

and collected into certain Rules which may discover all those Mysteries that are contained in that Science, by which a man may become an excellent Musician, and expert, both in the Theoretical and Practical Parts thereof. To the Completing of such forcible Rules I have contributed my Mite, whose Certainty and Reality has been Experienced by divers, and may likewise be further known unto others, if they please or desire to understand them.

I know that all Virtuoso's will encourage those things which conduce to the Improvement of any ingenious Art: but what shall be spoken against such things by persons rude, envious, or that do pass their Judgment rashly upon things which they know not, having neither seen, heard, nor understood them, is not to be valued. And I do assure my self that there is not any person in this Nation, that is a true Lover of this Science; or a Professor thereof, who does truly honour and understand this Art, but could cordially wish such an Improvement thereof, that those things which in Musick are concealed and mysterious, might be fully discovered: those which are imperfect, completed: those which are doubtful and disputable, cleared by evident Demonstration: those which are not to be done without great trouble, facilitated: those many Observations which burthen the Memory, made few and plain: and those whose Operation and Experience do's require the study and Expence of many years, might be performed without any difficulty in a few Weeks, or Months at the farthest. And that this way is found out and effected in a great measure I say, many persons of Worth and Quality are able experimentally to testify.

Musick

To the Reader.

Musick hath already flow'd to a great height in this Nation; for I am perswaded that there is as much Excellence in the Musick which hath been, and is now compos'd in England, as in any part of the World, for Ayre, variety and Substance. but I heartily wish, that after this great Spring and Flood, there be not in our succeeding Generations, as low an Abb. For if the serious and substantial part of Harmony be neglected, and the mercurial only us'd: It will prove volatile, evaporate, and come to nothing. But, Gentlemen, I would not willingly weary your patience, and since the Temple is so small, I will not make the Gate so big; But subscribe myself as it is known I am) a true Lover of Musick, and

Your Servant

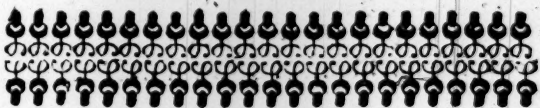
J. B.

I have endeavored faithfully to translate the Original; in which I find some mistakes, which I dare not impute to the Author, of which I would have shew'd notice. And also one Error in this Impression.

1. Fol. 20: the greater Semitone exceedeth the lesser by the lesser Diess: whereas it exceedeth it but by a Comma, as appeareth fol. 18: where the Author saith thus, The Comma is the difference between the semitone major and minors.

2. Fol. 31: almost ten parallel Lines; the Word almost should be left out, for the greater Syllable is ten parallel Lines.

3. Fol. 44: for d moll. read b moll.



TEMPLUM MUSICUM.

CHAP. I.

Of the Subject of Musick.

PRECEPTS.

MUSICK is the Science of Singing well, otherwile called Harmonical: and Musathena.

The parts thereof are two: the general and the special.

The general part doth treat of the Subject of Musick; and both of the Principles and Affections of the Subject.

The Subject of Musick is an harmonical Song. And this is the Subject of Tractation. The Subject of Informa-

B

tion,

tion, is the Faculty of Singing : and the Subject of Operation, is the matter to which harmonical Musick may be applied.

RULES.

1. Musick is a Mathematical Science, subalternate to Arithmetick.

For as *Arithmetick* doth treat of *Number*, so *Musick* of the number of *Sounds* : Or as others of numerous *Sound*. For as the *Optick Science* is called a certain special *Geometrie*, so *Musick* may be called a certain special *Arithmetick* : But whereas some contend that *Musick* is both a *Science*, *Prudence*, and *Art*, because it doth instruct both skillfully, or scientifically, and prudently, and artificially to compose an harmonical Song, it is not so accurate. For it is not here Queried, whether *Science*, *Prudence*, and *Art* may concur in Practise : but whether *Musick* being considered as a *Discipline* either habitual or systematical, be a *Science*, *Prudence*, or *Art*. But that it is a *Science* it doth thus appear, because it hath *Subject*, *Principles*, and *Affections* ; which three things are required unto the complete *Ration* of a *Science*.

2. *An Harmonical Song*, is a continuous multitude of Sounds, rightly composed according to the Text.

The Subject of *Explication* in *Musick* is a Song; whose chief Force lieth in this, that it is accommodated to the Text and Affections.

But if the same Sound may be accommodated to divers and contrary things and Affections, then the *Musick* is inept and irrational; because it is contrary to the Scope and Principle of that most laudable Discipline, which will, That *Melodie* be applied both to Things and Affections.

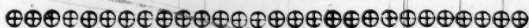
If therefore v. g. in any Psalm of David, three Parts do occur, viz. Lamentation, Consolation, and giving of Thanks: there, three Tones ought to be.

3. *The Subject of Operation in Musick* are Things sacred and liberal. By which it appeareth that the usefulness of it is very great.

Things sacred; as the *Psalms* and *Songs* in the Bible, and of other things wholly Divine.

Things liberal, as *pathetical* matters in things Philosophical, and which doth altogether concern the common Life of Man. For *Musick* doth penetrate

trate the Interiors of the mind, it moveth Affections, promoveth Contemplation, expelleth Sorrow, dissolveth bad Humours, exhilarateth the animal Spirits: and so is beneficial to the Life of Men in general; to the Pious for Devotion, to the Contemplative Life for Science, to the Solitary for Recreation, to the domestick and publick Life for Moderation of mind, to the Healthy for the temperament of their Body, and to the Courteous for Delight; As excellently saith that famous Musician *Lippius* in his Musical *Synopsis*. Hence it is that the Devil hateth Musick liberal, and on the contrary is delighted with filthy Musick and illiberal, which he useth as his Vehicle, by which he slideth himself into the minds of men, who take Pleasure in such Diabolical Musick. On the contrary, the holy Angels are delighted with Musick liberal, not because corporal Harmony doth affect them, but because all Harmony, especially that which is conjoynd with the Affection of a pious Will, is grateful to those chaste Spirits. Hence it is, that the *Heroes*, holy Men, and Lovers of Virtue of all times, have magnified Musick: as appeareth by these Scriptures; *Exod.* 15. *Judg.* 5. 1. 1 *Sam.* 16. 23. 2 *Sam.* 6. 5. 2 *Kings* 3. 15. 1 *Chron.* 23. 5. *Judith* 16. 1, 2, &c. *Syrach* 22. 5, 6, & 39. 20. & 44. 5. *Matth.* 26. 30. *Luke* 1. 46. & 2. 13. *Eph.* 5. 18, 19. *Col.* 3. 16. *Apoc.* 5. 9. & 14. 2, 3.



CHAP. II.

Of the Principles of Cognition in Musick.

PRECEPTS.

THE Principles of an Harmonical Song are those things upon which it doth depend : And those are either the Principles of the Cognition or Constitution thereof.

Those are complex : these incomplex.

The Principles of Cognition are those by which an harmonical Song is known. And they are either internal or external. Those are taken from the Science it self, these from Philosophy, partly theoretical, and partly practical,

R U L E S.

1. *The internal or domestical Principles of Cognition are here and there spread through the whole Body of Musick.* Wherefore it were not worth while to treat of them in this place.
2. *The theoretical Principles which Musick doth use, or is built upon, are either remote or proximate.*

The remote are such as are taken from the *Metaphysicks* and *Physicks*. And indeed from the *Metaphysicks*, there are taken Principles of Unity, Goodnesse, Pulchritude, Perfection, Order, Opposition, Quantity, Quality, and the like. And from the *Physicks*, those that treat of the Quantity, Quality, Motion, Place, and Time of a natural Body: Also of Air, and Sound, and of its propagation, multiplication, differences, and perception: And lastly of Affections, as Love, Joy, Sorrow, and the like. The proximate principles are Axioms, Assumptions, Questions, Theorems, Problems, and Confectaries mathematical; and those partly arithmetical, partly geometrical: but chiefly arithmetical; especially those which concern the Proportions

prieties of Simple Numbers, and also their proportion; viz. *dupla*, *tripla*, *sesquialtera*, and the like, of which in my Arithmeticks: But here let these *Axioms* be observed. 1. That Proportion of Equality is radically between one and one: And this is the Radix of all Proportion. 2. *Dupla* Proportion is radically between two and one, *tripla* between three and one, *quadrupla* between four and one, and so forward. Observe, that radical proportions are in Nine Simple Numbers, from 1. to 9. because these are the Radixes of all Numbers. 3. *Sesquialtera* Proportion is between three and two, *Sesquitercia* between four and three, *Superbipartiens tertias*, is radically between five and three, and *Supertripartiens quintas* is between eight and five. And these are simple proportions, in which such an order of perfection is observed, that after a proportion of Equality, a proportion of inequality followeth: First *Dupla*, afterward *Sesquialtera*, then *Sesquitercia*, afterward *Sesquiquarta*, and *Sesquiquinta*, then *Superbipartiens tertias*, and *Supertripartiens quintas*. To these succeed compounded Proportions, as *Dupla-Sesquialtera* between 5, and 2. *Tripla-Sesquitercia* between 10, and 3. *Dupla-Superbipartiens tertias*, as between 8, and 3. and so forward. 4. Proportions are numbred by Division logical, as the proportion which is between 3, 2. appeareth by Division. For if 3. be divided by 2. it will produce $1\frac{1}{2}$. 5. Proportions are added by vulgar multiplication, as $\frac{1}{2}:\frac{2}{3}$ make $\frac{4}{3}:\frac{2}{3}$. 6. Proportions are subtracted by Multiplication crucial; as

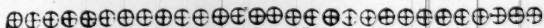
$$\begin{array}{r} 2X^1 \\ 3X^1 \\ \hline 4X^1 \end{array}$$

7. Proportions are multiplied or coupled when they are written without Intermiſſion, and the antecedent number of the latter proportion is multiplied into the Conſequent of the former, or contrarily. Alſo when the Conſequent of the former is multiplied into the Conſequent of the latter. Or laſtly, when the Antecedent of the former is multiplied into the antecedent of the poſterior. As 2. 1, 3, 2. Here, once three, give three: and once two, give two, and twice three, give ſix. 8. Proportions are radicated in greater numbers, and in numbers compounded one with another by Mediation logarithical; as 16-8. Firſt they are reduced to 8-4. then to 4-2. laſtly to 2-1. And thus radical Proportions by courſe are eaſily reduced to their greater Terms by logarithical *Daplation*; as 1-2. to 2-4. thence to 4-8. then to 8-16. and ſo forward. 9. Every *Dupla* Proportion doth conſiſt of a *Sesquialtera* and *Sesquitertia*. 10. If a *Sesquialtera* be taken away from a *Dupla*, a *Sesquitertia* will only remain, and ſo conſequentially.

3. *Practical Principles which Muſick uſeth, are chiefly taken from the Ethicks, Oeconomicks, Politicks, and Poeticks.*

From the *Ethicks* are taken Principles of Virtue, and moral Beatitude; from the *Oeconomicks* of Acti-
ons

ons domestick ; from *Politicks* Principles of virtue, and civil Beatitude; and from *Poetrie* Principles concerning Rhyme and Verse : which have such Affinity with Musick, that by some Musick is divided into Harmonical, Rhythmical, and Metrical.



CHAP. III.

Of the Efficient and End of an Harmonical Song.

PRECEPTS.

THE Principles of Constitution are those by which an harmonical Song is constituted.

And they are either external or internal.

The external are the Efficient and End. The Efficient Cause of a Song is either the first or second.

The first Cause is GOD the Author of all Symphony.

The second is partly Nature, the Mother

ther of all Sounds : partly Art perfecting the Rudiment of Nature.

The ultimate End is GOD that Arche-type of Harmony.

The subordinate End is Motion, and the impulse of Man to the hatred of Vice, and Study of Virtue.

RULES.

1. *God is the Author and Maintainer of all Harmony,*

Seeing Harmony is Order, and tendeth to Unity ; for God is the Author and Maintainer of all Order, and the greatest Unity. Furthermore, God is the chief and unspeakable Joy, therefore they who rightly rejoyce come nigher unto God. Hence the *Rabbins* say, *the Holy Ghost doth sing by reason of Joy.* And *Philosophers* say, *That the Soul of a Wise man doth alwayes rejoyce ;* For joy as it is pure Harmony cannot but be excited and maintained by Musical Harmony.

2. *The*

2. *The Exemplary Cause of Harmonical Musick; is that Musick which is called mundane.*

This is discerned in the Order, Disposition, and admirable proportion which doth occur in the Celestial, and subcelestial Region; partly among the Stars, partly among the Elements, partly among all things compounded of the Elements; and lastly, among all those things which are compared one with another: of which Musick and Harmony we have spoken in our *Physicks*. This Harmony being such and so great, when ancient men did diligently consider it, they supposed that there was the like Proportion not only in Numbers and Lines, but also in the Voice; especially when they did discern that Proportion in the various Sound of various Bodies.

3. *Musick receiveth his greatest Perfection from the End.*

That Perfection doth not only depend upon matter and Form, but also upon the End we have formerly shewn in our *Metaphysicks* and *Logicks*. In *Musick* certainly this is most manifest: for unlesse it be referred to the Glory of God, and the pious Recreation of Man it cannot but equivocally be called Musick. Hence it is apparent that those simple men who abuse Vocal and Instrumental Musick to nourish

The simple part is called **Sound** : also a Musical Monad. in Greek Tonos.

A Musical Sound is considered in respect of his Quantity and Signs.

The Doctrine of that is called theozetical Musick, and of this Signatory.

Quantity is threefold, Longitude, Latitude, and Crassitude.

The Longitude of a Musical Sound, is that which is discerned in the motion and duration thereof : and measured by a Musical Touch or Tact.

The Latitude of a Musical Sound is that which is discerned in the tenuous and asperous spirit.

The Crassitude of a Musical Sound is that which is discerned in the Profundity and Altitude thereof.

By reason of this Crassitude a Musical Sound is equal or unequal.

The equal Sound is the Simple Unison.

The unequal Sound doth bring forth a Distance or an Interval of a sonorous Crassitude : which is called a Musical Interval.

A Musical Interval is seen in Disposition and Intention.

By reason of Disposition, an Interval is simple or compounded: that is called radical, this radicated.

A Simple Interval is either Just, or not Just.

A Just Interval is that which is neither defective nor redundant: as an Octave Fifth, &c.

An Interval not Just is that which is defective or redundant: as a Semioctave, &c.

A compounded Interval is that which doth consist of simple Intervals: as a double Octave, a triple Octave, a quadruple Octave, and so ad infinitum.

By reason of Intention it is a Scale, called Musical; and it is the various Disposition of acute and grave Sounds.

RULES.

1. Every Sound is *Quantus*.

For in every Body that hath Quantity, there is an audible Quality. That Quantity is numbred by Division, and not barely considered, as it is a magnitude. So that the most accurate *Lippius* might rightly say, every Sound is continual or discrete, or explainable by number. But a Sound is *Quantus*, by complete Quantity. *i. e.* So that it have a trine Dimension, and therefore Longitude, Latitude, and Craffitute.

2. Every Sound is long numerably.

For seeing every Sound doth continue so long, or not so long, this temporal duration thereof may be numbred. And it is numbred by a Musical Touch, which, according to the motion of the Heart, in this Science ought to be observed. This Touch doth consist of *Depression* and *Elevation*, according to a certain Proportion, but especially a *Duple*: And it is either more simple, more natural, and more common, which is finished in two equal parts, and may be called *Spondaic*, as *Mū īs*: or lesse simple, and more unusual, which doth consist of unequal parts, the one greater, and the other lesser, and may be called *Trochaic*, as *Mū ā*.

3. Every

3. *Every Sound is numerably broad.*

For every Sound besides the length thereof, is also tenuous or gentle, flat, submiss, small; or sharp, harsh, clear, full, as consisting of a tenuous and asperous Spirit.

4. *Every Sound is numerably thick.*

Besides the length and breadth, every Sound is also thick; and so it is either deep or high. That, is called grave, and this, acute. And we measure this magnitude of a Sound by Proportions of numbers, especially radical, as they are applied to the *Monochord*.

5. *The Simple Unison is the Principal and Radix of all Musical Intervals.*

As in numbers there is one proportion of Equality, and another of Inequality: So also in Sounds, one is equal, and another is unequal. And again as in numbers, the Proportion of Equality is the *Radix* of all the rest: So in Sounds, the Simple Unison is the principal and *Radix* of all Musical Intervals. For the Simple Unison doth consist of a proportion of Equality, which is radically between 1. and 1. as may be seen in a *Monochord*. Therefore a Simple Unison is not a musical Interval, but the original thereof.

6. *Unequal*

6. Unequal Sounds do make a Musical Intervall.

Unequal Sounds do make a *Diastem* or *Distance*, which is called a Musical Intervall, in which the grave Sound is profound and greater: and the acute, high and lesser. Of this Intervall these *Theorems* are noted. 1. *He that knoweth a simple Intervall, may easily know a compounded Intervall.* That, as they say, is radical: this, radicated. 2. *There are seventeen simple Intervals or Diastems in this order.* The first, an *Octave*, to wit, a voice, in Greek a *Diapason*, which is of a *Dupla* Proportion, between 2. and 1. where one Sound as the greater and graver, doth contain another, as the lesser and acuter, twice in it self; Therefore is the *Unison* composed from Letter to Letter, v. g. from *G.* to *g.* &c. The second, a *Fifth*, or *Diapente*, which is of a *Sesquialtera* Proportion; between 3. and 2. The third, a *Fourth*, or *Diateffaron*, which is of a *Sesquiter-tian* Proportion between 4. and 3. The fourth, a greater *Third* or *Ditone*, which is of *Sesquiquar-ta* Proportion, between 5. and 4. The fifth, a *Third minor*, or *Hemiditone*, which is of *Sesqui-quinta* Proportion, between 6. and 5. The sixth, a *Sexta major* [or greater *Sixth*] or fourth with the greater third, which is of a *Superbipartiens tertias* Proportion, as between 5. and 3. 7. A *Sexta minor* or fourth with the lesser *Third*, which is of a *Supertri-partiens quintas* Proportion, between 8. and 5. The eighth, is the *major Second*, or whole Tone, which

is of a *Sesquioctave* Proportion, between 9. and 8. The ninth, is the *minor Second*, or *minor Tone*, of a *Sesquinona* Proportion, between 10. and 9. The tenth, is the *major Semitone*, of the Proportion of 16. and 15. The eleventh, is the *minor Semitone*, of a *Sesquivicesima quarta* Proportion, between 25. and 24. The twelfth, the *Diesis minor*, of a *supertripartiens centesimas vigesimas quintas* Proportion between 128. and 125. The thirteenth, a *Comma* which is the difference between the *Semitone majus*, and *minus*, of a *Sesquiottogesima* Proportion, between 81. and 80. The fourteenth, a *Schisma* which is the half of a *Comma*, or half of the Difference between the *Semitone majus* and *minus*. The fifteenth, is the fifth with a *tertia major*, or greater *Seventh*, which is of a *Superseptipartiens octavas* Proportion, as between 15. and 8. The sixteenth, is the lesser *Seventh*, or *quinta cum tertia minore*, which is a *Superquadrupartiens quintas* Proportion, between 9. and 5. The seventeenth, are Intervalls not just, which are either deficient or redundant, chiefly by the lesser *Semitone*, or *Comma*, or both together: as the *Semioctave* deficient and abounding *Fifth*: the minute and superfluous fourth which is named a *Tritone*, and such like. 3. *Intervalls compounded of simple Diastems may be infinite.* But it is proper to *Musick* to bound that Infinity of gross Sounds. (which is such only potentially.) Notwithstanding let us take notice of certain compounded *Intervalls*. First, such as are once compounded, as a *Disdiapason*, double *Octave*, or *Fifteenth*, which is of a *quadrupla* Proportion, between 4. and 1. Also a *Diapason*

son with a *Diapente*, an *Octave*, with a *Fifth*, or *Twelfth*, of a triple Proportion, between 3. and 1. Also a *Diapason* with a *Diateffaron*, an *Octave* with a *Fourth*, or *Eleventh*, of a dupla *superbipartiens tertias* Proportion, between 8. and 3. Also others are twice compounded, as a *Triadiapason*, *Triple Octave*, or two and twentieth of an *Octupla* Proportion, between 8. and 1. &c. Thirdly, others are thrice compounded, as a *Terradiapason*, *quadrupla Octave*, or nine and twentieth of a *sedecupla* Proportion, between 16. and 1. Others are four times compounded, and so *ad infinitum*. 4. An *Octave* is the most simple, perfect, and prime musical Interval. 5. An *Octave* divided begets all other simple *Diastems*. Therefore from the Division of the *Octave*, the Harmonies of every Genus do flow. For every *Octave* being divided two wayes, begetteth two Moöds of it self. 6. An *Octave* is first divided into a *fifth* and *fourth*, of which it doth consist: and that either by *harmonical* or *arithmetical* Division. That is called the *harmonical Medium* of an *Octave*, when the *fifth* is beneath the *fourth*: and that the *arithmetical*, when the *fourth* is beneath the *fifth*. Let this be the Example of *Harmonical* Division.

But I suppose the Author meaneth thus;



Division Arithmetical is thus:



Therefore in the harmonical Division of an *Octave* the *fifth* remaining immoveable, the *fourth* is placed above the *fifth*: in the arithmetical Division, the *fifth* remaining immoveable, the *fourth* is put beneath the *fifth*. 7. If a *Fifth* be taken from an *Eighth*, there remaineth a *Fourth*, and so on the contrary. 8. A *Fifth* is divided into a *Ditone*, and *Semiditone*. 9. A *Ditone* is compounded of the greater and lesser *Tone*. 10. The *Tonus* major is disposed into the *Semitone* majus and minus. 11. The *Ditone* is more then the *Semiditone* by the *Semitone* minus. 12. A *Fourth* exceedeth a *Ditone* by the major *Semitone*. 13. A *Fifth* is more then a *Fourth* by the greater *Tone*. 14. The lesser *Tone* is exceeded by the greater by a *Comma*. 15. The greater *Semitone* exceedeth the lesser by ~~a Comma~~. 16. A *Sixth* is made of a *Fourth* and a *Third*, the greater of the greater, and lesser of the lesser, or the greater of a *fifth* and lesser *Tone*, and the lesser of the *Semitone* major. 17. The seventh major, is made of a *Fifth* and greater *Third*, the minor, of the minor. 18. The greater *Tone* doth contain almost ten *Comma's*, the lesser almost nine; the greater *Semitone* almost five, and the lesser almost four. 19. A *fifth* doth contain two greater *Tones*, one lesser, and the *Semitone* majus: A *fourth* one

one greater and lesser Tone, and the Semitone majus. Therefore an Octave hath in it self six Tones, three major, and three minor, with the lesser Diesis: to wit, five Tones, three greater, and two lesser, with two major Semitones, and so it doth comprehend more then fifty Comma's. 20. Compounded Intervalls do imitate the nature of their simple. A Disdiapason ariseth from two Octaves, an Octave with a Fifth comprehendeth eight Tones, five major, three minor, and three greater Semitones. A Trisdiapason is divided into three Octaves, and so of the rest. These Propositions are demonstrated by propositions arithmetical of proportions added, subtracted, coupled, &c. v. gr. An Octave is of a dupla proportion, a Fifth of a Sesquialtera, a Fourth of a Sesquitercia. Therefore an Octave doth consist of a Fifth and a Fourth. This whole matter is demonstrated in a Monochord: How these things may be vulgarly propounded, you may see hereafter in the last Chapter and last Rule.

7. The Scale of Musick is explained in these Theorems.

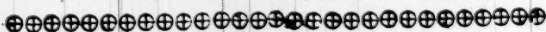
1. The Series of Intension and Remission: or of Ascension from a grave Sound into an Acute, and of the Descension from an acute into a grave, is called the Scale of Musick. 2. The Scale of Musick doth vary both according to ancient and modern Musicians: For the Scale of the most ancient Musicians, was son-

ly of one *Diapason* for radical Simplicity. The Scale of the *Pythagorians* was of a *Disdiapason*, for the keeping of Mediocrity. And now it is of a *Tris*, and *Tetra-Diapason*, for the grateful variety of vocal and Instrumental Musick. The Scale also is either Simple: and that either old as the *enharmonic*, *chromatic*, and *diatonic*; or new as the *Syntonic*: or mixed, which is compounded of simple [Intervals] Of these the *enharmonic* and *chromatic*, in respect of their Difficulty and imperfection are not used in Solitary Musick. 3. The *Syntonian Scale* is of all others the most harmonical, to which the *Diaton Scale* may aptly be mixed: as it may be seen in a *Clavichord*, and wind Instrument, i. e. an *Organ*; where the white *Keyes* do proceed in the *Syntonian Scale*; which is somewhat moderated by the *Diaton*. The *Syntonian Scale* proceedeth by the great Tone, the lesser Tone, and the greater *Semitone* which ariseth from the *minor Tone*: the *diatonic* or *diaton* proceedeth by two *Tones* and a *Semitone*. To these the *enharmonic Scale* is added, proceeding by two *Dieses*, the greater and lesser, and an immediate *Disone* in his *Tetrachords*. Also the *chromatic* proceedeth by two *Semitones*, the greater and the lesser, and an immediate *Semiditone*. So the black *Keyes* proceed with the white in the *chromatic*: from whence they are called *fiat* in the *Syntonian*. Hence also ariseth the Scale irregular or flat, which differeth not from the regular or dural, but by accidental *Transposition*, or by the fourth above, or by the fifth beneath. And this is the *Disposition* of the old *diatonic Scale*.

1. *The greater Tone. 9. 8.*
2. *The greater Tone. 9. 8.*
3. *The lesser Semitone from the greater Tone 256. 243*
4. *The greater Tone. 9. 8.*
5. *The greater Tone. 9. 8.*
6. *The greater Tone. 9. 8.*
7. *The lesser Semitone. 256. 243.*
8. *The greater Tone. 9. 8. and so on through the Octaves below and above.*

But the Disposition of the new and perfect Syntonian Scale is as followeth ;

1. *The greater Tone. 9. 8.*
2. *The lesser Tone. 10. 9.*
3. *The greater Semitone. 16. 15.*
4. *The greater Tone. 9. 8.*
5. *The lesser Tone. 10. 9.*
6. *The greater Tone. 9. 8.*
7. *The greater Semitone. 16. 15.*
8. *The greater Tone. 9. 8. And so on through the Octaves above and below. Compare these things with the antecedent Rule, and following Chapters.*



C H A P. V.

Of the Signs of a Musical Sound.

P R E C E P T S.

THE Signs of a Musical Sound do follow.

And those are of a Sound either broad, long, or thick.

The signes of a long Sound do note the duration thereof : and they are either principal or lesse principal.

The principal Signes are a Note and a Pause.

A Note is a signe of a present and positive sound : and containeth Touch, and that either whole or not whole.

It containeth the whole Touch either eight times as a Large, or four times as a Long, or twice as a Breve, or once as a Semibreve.

The rest do contain not the whole, but part

part of a Touch, and that either the half part as a Minim, or the fourth part as a Crotchet, or the eighth part as a Quaver, or the sixteenth part as a Semiquaver.

A Pause is the Index of a privative or absent Sound, that is of silence: and it answereth either to a Large, or Long, or Breve, &c.

Signes lesse principal are a semicircle with a Center, Custos, or the like.

Signes of a broad sound, are a prick of Augmentation, breathing, and Syncope: of which, Syncope, is a certain loosing of the Touch, Notes, or Pauses; breathing answereth a Semi-Minim.

The Signes of a Crasse Sound are parallel Lines, wherof the place and name do occur.

The place is a Musical System, and that greater or lesser.

The greater System for the most part doth consist of ten Lines: and serveth for the Composing of a Song, called otherwise a conjoynd System.

The lesser System doth consist of five Lines, and serveth chiefly to a Song pricked out. This is otherwise called a simple System.

The

The Name is aswell a Letter as a Voice, or as others will, a Musical Syllable.

A Letter is as a Key by which the Song is opened, therefore called Clavis. Such letters are seven, A. B. C. D. E. F. G.

The musical Voices or Syllables are six, ut, re, mi, fa, sol, la.

These are found in a Musical Scale either continued or discontinued.

There, there is no need of Mutation: but here otherwise.

RULES.

I. *The most certain and ready Signs of Sounds are Cyphers of Numbers.*









Because a Sound can neither by any Man be written in Paper, nor kept in his Mind, neither only nor alwayes; therefore it standeth in need of certain Signs, by which the Quantity and Quality thereof may be represented. For because in the Numbers and Proportions of these, all the Dimensions of Sound have their assigned Essence; the most sure and ready Signs are Cyphers of Numbers placed according


ding to their *Longitude*, *Latitude*, and *Profundity*. For according to *Longitude*. 1. 2. 3. 4. 8. $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{8}$ may note the stay of one Touch, two, three, or four, &c. According to *Latitude* in like manner; and according to *Crassitude* the greater Numbers may signifie the grave Sound; and the lesser Numbers, the acute Sound. But it behoveth here to retain vulgar Signs, because they are most used.

2. The Doctrine of Notes is contained in these Rules.

1. Notes are either simple or compounded. And those are either whole or broken. These are called bound. Simple Notes are placed without any joyn- ing of either : Compounded, contrarily. Whole Notes are measured by whole Times; broken Notes, by parts of Time. Whole Sounds consist either of one Time, as a *Semibreve*: or of more, and those ei- ther of two, as a *Breve*: four, as a *Long*: or eight, as a *Large*. The broken Notes do contain either the second part of a Time, as a *Minim*: or the fourth, as a *Crotchet*: or the eighth, as a *Quaver*: or the Sixteenth, as a *Semiquaver*. According to the following Scheme.

Names.

Names.	Figure.	Value.
Large.		8.
Long.		Excessus.
Breve.		
Semibreve.		2.
Minim.		Medium.
Crotchet.		1.
Quaver.		Defectus.
Semiquaver.		
		$\frac{1}{4}$
		$\frac{1}{8}$
		$\frac{1}{16}$

Although more Notes of Longitude may be given, aswell greater or lesser, potentially infinite: yet these notwithstanding do suffice, which were invented by Musicians of former Ages. 2. Notes are varied according to the Augmentation or Diminution of their value, or according to both together. Either all or some are augmented by the half part; and truly, all are augmented either by the Opposition of a Semicircle. C. . and a Prick, of which this is the Rule: A Prick put after Notes doth add the half part of the time above their proper value, as

1 2. 6. 3. $\frac{3}{2}$ $\frac{3}{4}$


Thus

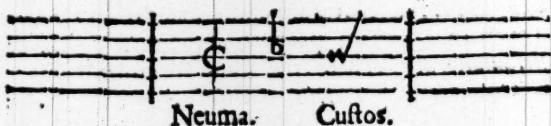
Thus a Prick after a H . is a *Monotone*, or D . after a *Semibreve* is a *Minim*, or J . Some Notes are only augmented by prefixing a Circle O . as a *Large*, *Long*, *Breve*. Notes are diminished by a *Trochais* Touch in a certain proportion, either *Tripla* or *Sesquialtera*. Where the Signs are either Number or Colour: as $\frac{3}{4}$ is *tripla*, $\frac{2}{3}$ is *sesquialtera*. Notes are partly augmented and partly diminished, chiefly by the ligation and obliquation of a *Breve*, which is done for the extending of one Syllable. And a *Long* also with a *Breve* is counted for a *Semibreve*; and also in like manner a *Breve* with a *Breve*. But this kind of ligation and obliquation is now wholly omitted, as not necessary in the least.

3. *Pauses measuring Silence do answer to those musical Notes whereof they are Privations.*

For a Pause (which is noted by a little Line) doth answer either to a *Large*, or *Long*, or *Breve*, or other Note: as in the Type.

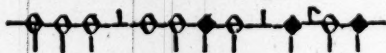


A double Breathing doth answer to a *Quarter* : a Triple to a *Semiquaver*. Hitherto do pertain the *Neuma*, *Custos*, and the like. As



4. *Signs of a broad Sound are by Artists expressed less carefully.*

The Sign of a broad Sound ought to shew the Latitude of it according to the asperous, harsh, clear, full, soft, flat, and small Spirit thereof, as the nature of the Text requireth. But Musicians do less weigh the Latitude of a Sound, and do leave it to the Text, and to the things themselves that are to be sung, and are content with few Signs, chiefly using breathing and Syncopation. Breathing doth answer to the *Crotchet* : Syncope or Syncopation is a certain Luxation, that is, a fraction, and Contraction of Touch, Notes, and Pauses. *e. gr.*

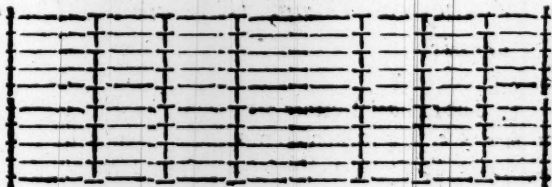


5. *The Sign of a Crass Sound is a crossed Line, as they call it.*

The Sign signifying *Crassitude* of gravity and *assensense*

cutenisse measurable by proportionable Numbers, is a perpendicular Line, which a right line doth cut; thus, +. These Lines are called Seats of crass Sounds or Musical Intervalls. Also a Musical System which is twofold, the greater and the lesser. In both there are perpendicular and parallel Lines; indeed in the greater there are ten parallel Lines, in the lesser alwayes five. The greater serveth for the composing of a Song; where the perpendicular Lines are cut by the distance of one or two Touches: But the lesser doth serve for Melody, which is to be extracted and noted.

Let this be the Type of the greater System.

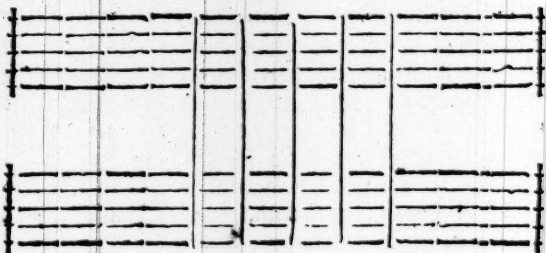


Let this be the Type of the lesser System.



Both these Systems are put in a Chart, or Melopoetick *Abacus*, or Compositary as they call it. The first is convenient to a young Beginner: the latter, for

for a longer Practitioner : but others would rather draw more simple Systems in an *Abacum* ; Thus,



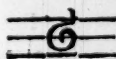
6. Of Letters and Voices Musical, as they call them, these are the Theorems.

1. The radical Letters are seven, in this order, *a. b. c. d. e. f. g.* which do moderate Sounds in the *Diatonic Scale* of a *Diapason*. These are usually called *Keyes*, because that by them a Song is, as it were, opened. They were invented by *Guido Aretime* ; at this time they are insufficient. 2. Letters or *Keyes* are either *capital*, *minute*, or *geminate*. *Capital* are they which are written with Capital, that is with great Letters. Thus *r. A. B. C. D. E. F. G.* of which *r. A. B. C.* are called *grave*, because they emit a grave Sound in respect of the rest : the rest, as *D. E. F. G.* are called *finals*, because every Song regularly doth end in these *Keyes*. We have only

r from the School of the *Greeks*. The minute Keys are in number seven, so called because they are written with little Letters. Of these *a. b. c. d.* are called affinal, because in these Keyes the transposed Song doth end: otherwise called acute, because they do emit a more acute Sound. The other are called *Superacute*, because they are put above the acute, as *e. f. g.* The geminate Keyes are commonly five in number. *aa. bb. cc. dd. ee.* So called because they are written with double Letters. Otherwise called excelling; because in their Sound they transcend all others. But because the number of Keyes is not sufficient; therefore latter Musicians under the great Latin Letters have put seven German Letters: and the double Letters they do fully recite, and more-over they add unto them triplicated Letters. Thus

1. *A B C D E F G.*
2. *a b c d e f g.*
3. *aa bb cc dd ee ff gg.*
4. *aaa bbb ccc ddd eee fff ggg.*

3. Keyes are signed, or understood, or not signed. The signed Keyes are three which are distant one from another by a Fifth, and they are *g. c. f.* thus



D



These

These in the conjoynd System are thus put, and are distant from one another by a *Diapente*.



In a simple System they are variously placed by reason of the Profundity and Altitude of a Song; As,



But Keyes not signed are known by the signed.

4. Out of these seven Keyes there is a double b. viz. flat and sharp. These two Letters in the signing are distant by the lesser half Note. So that the regular or dural Scale beginneth in C. and the irregular or flat Scale in F. b dural is thus marked p and is called b. quadrate.

5. Besides b. molle, as they call it, there is need of Cancells X . and cis, dis, fis, gis: which are called fict Letters by instrumental Musicians. But David Mostart so accommodateth the Musical Keyes to seven new Voices. Four Keyes in the whole are
here

here to be held. The first is C. in which he will alwayes have *bo* sung. The second is G. five Tones below and four above G, he alwayes singeth *bo*. The third is F. and four above, and five Tones below F. *bo*. is alwayes sung. Also five Notes above B. *molle*, and four under B. *molle*, *bo*. is alwayes to be sung. 6. *Musical Voices are one way rehearsed by the Ancients, and another way by later Musicians.* The ancient Musicians did constitute these six *ut, re, mi, fa, sol, la*. To these six Voices some do add the seventh *Si*, lest there should be need of some Mutation. Concerning this thing *Erycius Puteanus* in his *Musathena* doth so for the most part play the Philosopher. *Guido Aretine* (lived under Henry the third Emperour) for his Skill in Musick among the prime of his Age, and delighted with the perfection of the Senary Number, introduced these six Syllabic Notes, *ut, re, mi, fa, sol, la*. which he borrowed and translated out of the Hymne.

Ut queant laxis Resonare fibris ,
Mira gestorum FAmuli tuorum ,
SOLus pollutus LABij reatum.

Sancte Johannes.

These six Notes so invented, do shew their use every where among Musicians, but very slow and difficult. For what impediment is there of Mutations, confusion of Keyes, substitution of Voices? You may see most (whether with Indignation or no) to have spent a good part of their Age upon this Art,

and yet to have profited very little, though perfect many years before in the *Lesson* thereof. But the Difficulty doth hinder, and make it a *remora* to most. Which some do thus take away by joyning *fa*. to these six received Notes. For which Note you may put *Bi*. out of the said Hymne.

Solve polluti la BI. i. reatum.

This therefore shall be the order of Notes, *ut, re, mi, fa, sol, la, bi*, for this *Heptade* these following Reasons are brought. 1. Whereas Notes are the Index's of Voyces, and as certain Signs, it is of necessity that there should be as many Notes as Voices. But there are seven distinct voices stablished in that half verse *septem discrimina vocum*. Therefore there are seven Notes. For by voices are understood those seven Sounds, which are distinguished by certain Intervalls. Those Intervalls or Dialtems are called Tones. Therefore a Sound, and Tone or Intervall do differ. A Sound is the Voice it self, which being formed by the Mouth, is brought by the Air to the Ears. A Tone is a Space circumscribed by two Sounds: or, the distance of a grave and acute Sound: So that Tones are those Intervalls; which are placed between the first and second Sound, the second and third, the third and fourth, the fourth and fifth, the fifth and sixth, the sixth and seventh. But this *Heptade* of Voices, *Ptolomy* in his eleventh Book concerning Musick doth confirm; saying, *that by nature Voices can be made neither more nor fewer, than seven.* 2. The *Egyptians* and *Grecians* have approved

proved the seven *Voyces* by the number of seven *Vowells*. For the *Egyptians* as *Demetrius Phalerens* doth testifie, did commend their *Gods* by the modulated enunciation of seven vowels. And *Plutarch* doth accommodate the *Greeks* seven Vowels to so many Voices of Musick. 3. The *Lyre*, *Cithren*, and certain other musical Instruments which are strung with strings, were anciently of seven strings, without doubt, by reason of the seven Voices. The *Chords* of the *Lyre* were of old in this order, and by these Names, *Hypate*, *Parhypate*, *Hypermesse*, *Mese*, *Paramese*, *Paranete*, *Nete*. The first is called *Hypate*, not only for the acutenesse of the Voice, but for a certain excellency and virtue. For *Hypatos* as it were *Hypertatos*, doth signifie a degree of Eminency and Dignity. *Nete*, as *Neate*, that is, the last or ultimate. Neither have the *Chords* been only by these Names, but also the Sounds themselves, nigh this manner. *Hypate* hath to himself *Bi*. and soundeth acutely: *Parhypate*, *la*, and doth lullaby: *Hypermesse*, *sol*, and doth sound sweetly: *Mese*, *fa*, and doth sound temperately: *Paramese*, *mi*, and doth delight pleasantly: *Paranete*, *re*, and doth grate tremulously: *Nete*, *ut*, and doth, as it were low hoarsly. Furthermore the Ancients did attribute the seven *Planets* to so many *Chords* of the *Lyre*, in this Order. To *Saturn*, *Hypate*: to *Jupiter*, *Parhypate*: to *Mars*, *Hypermesse*: to *Sol*, *Mese*: to *Venus*, *Paramese*: to *Mercury*, *Paranete*: and to *Luna*, *Nete*. In which Comparison the acutenesse and gravity of the *Chords* and *Planets* do respond exactly. Although others invert

the order, and attribute to *Saturn Nete*, and to *Luna Hypate*. Which Comparison although it may confit: Yet notwithstanding the first is more allowed: because *Saturn* doth proceed in a mundane motion most quickly, *Luna* most slowly. Look *Cicero* in his Dream. From the *Chords* to the *Notes* we transfer this Comparison, and ascribe to *Luna*, *ut*; to *Mercury*, *re*; to *Venus*, *mi*; to *sol*, *fa*; to *Jupiter*, *la*; to *Saturn*, *bi*. For surely as the *Planet's* do run round the *Week*, or the *Septenary Circle* of dayes in their *Term* or gliding *Course*, and each of them by a certain diurnal vicissitude of *Government* do's obtain the primacy: So these seven *Notes* do complete the universal harmonical *Lection*, divided by *Musicians* into seven *Types*. These *Types* are certain and appointed *Progressions* of *Notes*, distinguished by indicial *Letters*. 4. These seven *Voices* do render all *Musick* very facile, aswell in the *Theory* as in the *Practise*, thus. All *Musick* is accomplished by *Voices*. The *Voices* being known, *Notes* are adhibited: To the *Notes* *Characters* of *Letters*; as appeareth by this *Diagram*.

In a Flat Song.

Between	A	and	B	also	mi	and	fa	Hemitone
	B		C		fa		sol	Tone
	C		D		sol		la	Tone
	D		E		la		bi	Tone
	E		F		bi		ut	Hemitone
	F		G		ut		re	Tone

In

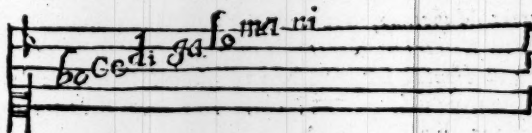
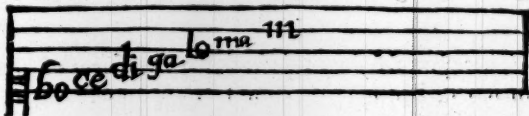
In a sharp Song.

Between	A	and	B	also	la	and	bi	Tone
	B		C		bi		ut	Hemitone
	C		D		ut		re	Tone
	D		E		re		mi	Tone
	E		F		mi		fa	Hemitone
	F		G		fa		sol	Tone

Therefore in a Flat Song, *A* hath *mi* conjoynd with it, *B* *fa*, *C* *sol*, *D* *la*, *E* *bi*, *F* *ut*, *G* *re*. In a sharp Song, *A* hath *la* ascribed to it, *B* *bi*, *C* *ut*, *D* *re*, *E* *mi*, *F* *fa*, *G* *sol*. Which difference the varied Disposition of the *Hemitones* hath begotten. Moreover of these Letters only four are expressed, *B*, *C*, *F*, *G*. Nor yet those together or conjoyndly, but one or two in the beginning of Lines. The other Letters not noted, you may know by these four. If you ascend from the *Index Letter*, number the first seven according to the *Order* of the *Alphabet*, but if you go further, then iterate the same: but if you descend, proceed by a retrograde *Order*, from the *Line* to the *Intervall*, and from the *Intervall* to the *Line*. Then you may rightly find out the *Letters*; by the *Letters*, the *Notes*; by the *Notes*, the *Voices*; which is the Summe of *Musick*. Therefore see that you be most exactly skilled in the ascending and descending *Order* of the *Notes*: and that the *Tones* and *Semitones* being observed, you may rise and fall with your *Voice*. After that, a *Song* being proposed, you

may pass from the *Sign* and *Letter* noted, to the *Note* answering it : from hence, omitting the *Letters*, to the other *Notes*. And this truly is easie in a flat *Song*, when *B.* is marked in the beginning of the *Lines*, there it sheweth that *Fa* is to be sung. But in a sharp *Song* the difference is of these three *Letters*, *C. F. G.* of which by that you may know *Sol*, by that *fa*, lastly by this *Sol*. Therefore every where consult the Signed *Letter*, find out the *Note*, and call it by its proper *Voice*, and so proceed from thence by ascending and descending : but if in Singing a *Note* do occur, which hath a peculiar *Letter* prefixed, the *Tone* is to be changed, and the *Note* of the *Letter* sung. Therefore if you have rightly accommodated the seven *Notes*, you may mixe any *Concent*, or read any *Melody* that you would, whether it be the simple *Aolian*, or the various *Asian*, or the querulous *Lydian*, or the religious *Phrygian*, or Warlike *Dorian*. But you will say that *Songs* are not concluded in those Seven *Voices*, but rise higher. The Answer is ready; As in numbers when we rise from the *Monade* to the *Denary*, the first is the chief of numbers, and by iterating and compounding them we proceed in infinitum. So in these *Voices* after every seventh *Sound*, it returneth to the first, but more subtile; and after every seventh *Note* the first : and so also afterward the second of *Notes* doth agree with the ninth; the third, with the tenth; the fourth, with the eleventh; the fifth, with the twelfth; the sixth, with the thirteenth; the seventh, with the fourteenth, &c. Of *Sounds* there is the same Judgement. From a
Musical

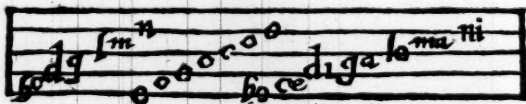
Musical Instrument, which by way of Eminency is so called, you may take the Experience of your Ears. But in these *Notes* observe a double order of *Intension* and *Remission*. *Intension* (by the Greeks *Epitasis*) is the commotion of the *Voice*, from the graver place to an acute: *Remission* (by the Greeks *Anesis*) from an acuter to a grave. But it is worth the pains, that here some Director or Ruler of the *Voice* (as *Tertullian* speaks) go before and lead. Hitherto *Puteanus*, with whom worketh *David Mostart* in his *Introduction of Musick*, as indeed he proveth the Septenary of *Voices*. But he doth substitute other *Voices* in this manner, *bo, ce, di, ga, lo, ma, ri*. But so that in *C* of a sharp Song *bo* is sung. Also in *F*. of a flat, *bo. e. gr.*



But let *Mostart* himself be heard. Who saith thus, *It is worth our labour seriously to invent such Musical Voices as exhibite unto us a perfect Octave,*
so

So that it be the Consequence of eight Tones or Notes: by which Connexion and Series the perfection of any Melody may be performed, without any Mutation: which indeed is the torture of tender wits. And the Series is this, *bo, ce, di, ga, la, ma, ni.* *bo* Which Abridgement if it should be admitted, those old vulgar Keyes should be abolished, the Letters of those seven Syllables being only retained in every Song, viz. *b. c. d. g. l. m. n.*

For Example sake.



Therefore *Mostart* rejecteth the six *Voices* of the Ancients; because they complete not an *Octave*, and for that Cause requite *Mutation*, which is the torture of the Ingenious: and also the seven *Voices* of latter *Musicians*, because they do not respond to the seven Letters or *Keyes*. But because those *Voices* of the *Ancients* be much used in *Schools*, therefore let us see their use. For 1. Some of those *Voices* are superiour, by which a Song descendeth, viz. *la, sol, fa*, and others are interior, by which it ascendeth, as *ut, re, mi*. 2. All those *Voices* are equally distant one from another by a *Tone*, besides *mi* and *fa* which are distant by a *Semitone*. 3. Of these *Voices*,

Voices, *ut* and *fa* sound flatly; *mi* and *la* sharply; the rest, meanly. But concerning this thing others speaks thus, *ut* and *sol* denote Sweetnesse, *re* and *la* gravity, *mi* Lamentation, *fa* threatnings. Lastly, others consider these *Voices* thus. *Ut* and *fa* are flat *Voices* by *b moll*, because they emit a flat and effeminate Sound: *re* and *la* natural, because they afford a natural and middle Sound: *mi* and *la b* durales, because they make a sharp and manlike Sound. According to these Verses;

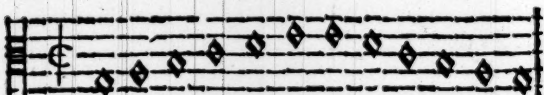
Vt cum fa mollis vox est; quia Cantica mollit:
Mi cum la dura est, Nam duras efficit odas.
Sol naturalis (quoniam neutras facit) & re.

4. Certain *Voices* do answer all *Keyes*. Thus

A	la	mi	re
B	fa	mi	
C	sol	fa	ut
D	la	sol	re
E	la	mi	
F	fa	ut	
G	sol	re	ut

5. These *Voices* are circumscribed in certain parallel Lines, so that in a Song we may ascend and descend; and that in a progression either continued, or discontinued. Continued Progression is that which observeth the natural Order of *Voices*, and is called a natural Song; As,

Discon-

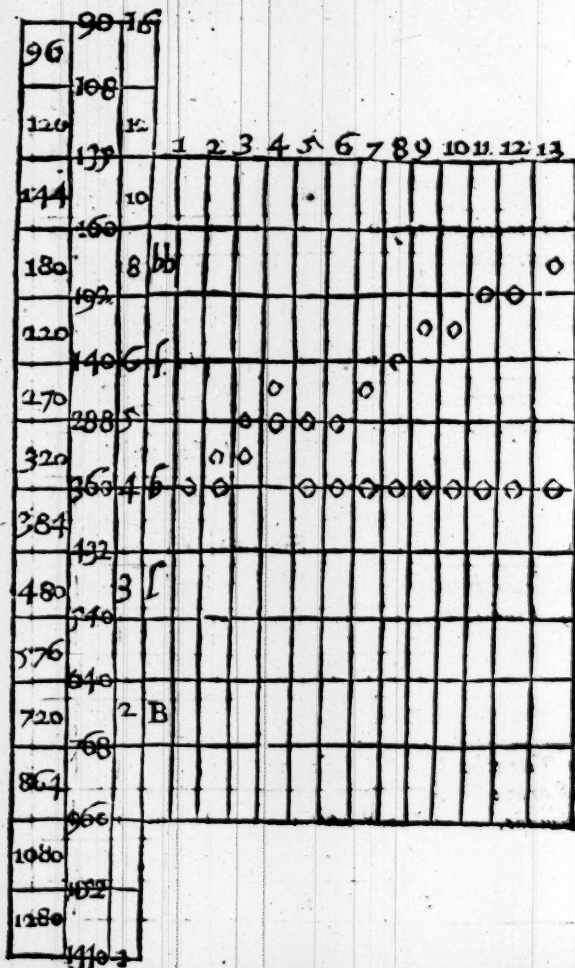


Discontinued Progression is the Mutation of a *Voice*, which is considered either in the minor or greater *System*. *Mutation* in the lesser *System*, is made for the Paucity of *Voices*: and it is either *Vocal* or mental. That is called *explicite*, this *implicite*. And both is diverse in a flat Song, and in a sharp. In a flat Song *Mutation* is made in *d. a. g.* whose memorial Note is *dag*. In a sharp Song *Mutation* is made in *d. a. e.* Whose *Voice* of remembrance is *dea*. In the greater *System* *Mutation* is made according to the *triple Scale*. The first is *b durat Scale*; which is the Progression of *Musical Voices*, rising from *a.* into *b.* sharply, that is, by the *Voice mi.* The second is *b moll*; which is the progression of *Musical Voices*, rising from *a.* into *b moll*, that is the *Voice fa.* The third is the *fiſt Scale*, which in every *Key* admitteth a strange *Voice*. And hence it is called *fiſt Muſick*: because modulated by feigned *Voices. i. e.* by such as are sung in any *Key*, in which essentially they are not contained. As *ut* in *e. re. in f.* and so on.

This is the Type of the *Triple Scale*.

5. Tetrachord	ee	b						la
	dd						la	sol
	cc						sol	fa
	bb		.				fa	mi
4. Tetrachord of excellents.	aa	b					la	mi re
	g						sol	re vt
	f						fa	vt
	e	b					la	mi
3. Tetrachord of Superiors.	d				la	sol	re	
	c				sol	fa	vt	
	b	b			fa	mi		
	a				la	mi	re	
2. Tetrachord of Finals.	G			sol	re	vt		
	F			fa	vt			
	E	b	la	mi				
	D		sol	re				
1. Tetrachord of grave Sounds.	C		fa	vt				
	B	b	mi					
	A	b	re				.	
	r		tt					

And this is the old *Diaton* Scale. Thus we have contracted the new *Syntonian* Scale of *Lippius*.



ral Song, is that which ariseth from musical sounds or Monads conjoyned according to three Dimensions.

And it is either primary or secondary.

The primary is called harmony and consonancy, which doth arise from grave and acute sounds united by such a proportion, that it may delight the hearing.

The secondary is dissonancy or Anarmony, which ariseth from such a proportion of grave and acute Sounds, that it offendeth the hearing.

And this double part is either a musical Dyas, or Tryas, of which the one is perfect, and the other imperfect.

A musical Dyas, is that which ariseth from two sounds: consonant and harmonical from Consonants, and dissonant from Dissonants.

And it is more simple, or more compounded. That is called radical, this radicated.

The simple Consonant Dyads, are seven, viz. An Octave, Fifth, Fourth, Ditone, Semiditone, greater Sixth, and lesser Sixth: the dissonant Dyads are the other simple Intervalls, as the Tone major and minor, the Semitone greater and lesser, the Seventh
greater

greater and lesser ; and lastly ; all simple Intervals not Just , as the Semioctave , Semififth, &c.

The Dyas more compounded is that which ariseth from the simple Dyas : and that again is either consonant or dissonant : and both compounded either once , twice , thrice , or so forward. In Dyads once compounded the Double Octave , also the Octave with a Fifth , the Octave with a Fourth , and Octave with a Ditone do consonate : but the Octave with both tones , with a Semitone , and with an Intervall not just doth dissonate. In Dyads twice compounded the triple Octave , and Double Octave , with a Fifth do consonate : but the Double Octave with both tones , with the Semitone , and so forwards , doth dissonate.

RULES.

- I. *There are two Arbiters of congruous and incongruous Proportions.*

The first is *superior*, which doth judge of Proportions

tions *a priori*, to wit, *Logos*: the other is *inferior*, which doth exactly judge of Sounds *a posteriori*, to wit, the *Hearing*. And there is a necessity that both these Judges should concur, as *Ptolemy* doth rightly teach: but falsely *Pythagoras*, who doth think that nothing here is to be attributed to the hearing; and falsely *Aristoxenus*, that supposeth nothing here is to be attributed to *Ration*. But the nature of Proportions is demonstrated by the *Manichord*: for that in it all Musical *Diafisms* are contained.

2. The Simple Unison is the Radix of all Consonancy and Dissonancy.

Vulgarly they imagine that the Unison doth both consonate and dissonate. But they erre; for the *Unison* doth equisonate only, because it hath the proportion of Equality, and is the principal of every Interval, *v. gr.*



Rightly therefore the simple *Unison* is made the *Radix* of *Consonancy* and *Dissonancy*.

3. *The Simple Consonant Dyads are in number Seven, and may be called Simple Concordancies.*

Vulgarly they thus rehearse the Simple Concordancies. There are twelve Concordancies, the 1. 3. 5. 6. 8. 10. 12. 13. 15. 17. 19. 20. And these are divided two ways. First, there are Simple, replicated or triplicated. The Simple Concordancies are the 1. 3. 5. 6. which are also called primary. The Replicated are such as are equisonant to the former, conceived by a double Dimension, as the 8. 10. 12. 13. Otherwise called Secondary. For in Sound the *Octave* doth associate with the *Unison*, the *tenth* with the *third*, the *twelfth* with the *fifth*, and the *thirteenth* with the *sixth*. The triplicated Consonants are the 15. 17. 19. 20. otherwise called *tertiaries*. Of these the 15. is coequated in Sound with the *Octave* and the *first*: the *seventeenth* with the *tenth* and *third*, and the *nineteenth* with the *twelfth* and *fifth*, and the *twentieth* doth equisonate with the *thirteenth* and *sixth*, According to this Type.

1.	3.	5.	6.
8.	10.	12.	13.
15.	17.	19.	20.

Lastly, There are Concordances perfect, or imperfect. The Perfect are those which can stand by themselves, that is, begin and terminate a Song: as

the 1. 5. 8. The *imperfect* are those which may concur in *Counterpoint*, as the 3. 6. 10. The *Discordances* are nine, viz. the 2. 4. 7. 9. 11. 14. 16. 18. 21. Others also do number the *perfect Concordances* thus, the 1. 3. 5. 8. because they respond to the *Pythagorical Quaternary*. But it behoveth them to play the Philosophers of *Concordances* more accurately. There are seven *Concordances* or simple *Consonances*. Of which the *Octave* is the first, which is of a *dupla* proportion between 2. and 1. In his Terms the most simple Convenience is diverse, as is between the whole and the half. The *Fifth* doth obtain the second place; then followeth the *fourth*; then the *Ditone* or *third* in a sharp Song; then the *Semiditone*, which is the *third* in a flat Song; in the last place save one is the *Sexta major* in a sharp Song; and in the last place, the *Sexta minor* in a flat Song. And this is the Order of *Perfection*. For although every Simple *Consonancy* is perfect in his degree; yet notwithstanding in respect of another, it is either more perfect or imperfect; yet so as the first and most perfect is the *Octave*, that compounded *Unison*; the most imperfect and last, is the lesser *Sixth*; the intermediate are measurably as the most perfect or most imperfect are nearer. Here *Musicians* do wonder, why the *Septinary* begetteth no *Consonancy*, when as it numbereth all simple *Consonances*. And this is the Scheme of those seven simple *Consonances*.



Of these the first three are perfect, the four latter are imperfect. And indeed principally the *Octave*, in respect of his excellent perfection doth *equisonate* and *unisonate* after the *Unison* and simple *Equison*. After it the *Fifth* for its perfection doth conionate by his most grateful, firm, and masculine Sound. After it the *Ditone* or greater *Third* by his sweet tone perfection doth concent but more cheerfully, strongly, and lively. Then the *Semiditone* or lesser *Third* also by his sweet Imperfection doth concent more softly, remissly, and heavily. Then the greater *Sixth* by his Imperfection doth circumsonate as it were more high and pleasantly. Last of all the lesser *Sixth* doth also so circumsonate but more slowly, flatly, and weakly. These four latter *Consonances* were not used by the *Ancients* in their *Diatone Scale*: but now they are used most chiefly, naturally, and artificially in the *Syntonian Scale*. And this is the Order of Perfection in the seven simple *Consonances*. The Order of the Crassitude of Sound, or of Intension and Remission is this, which is firmly contrary to the first. After the simple *Unison* is the *Semiditone*, then the *Ditone*, then the *Fourth*, *Fifth*, *Sixth minor*, *Sixth major*, and *Octave*. From these it is an easie thing to Judge of *Simple Dissonances*, to wit, because they are all *Tones* placed without the *Septinary* of *Consonances*; as the greater and lesser *Tone*; the greater and lesser *Semitone*; the greater and lesser *Seventh*, and lastly *Intervalls* not just deficient. For in these are disagreeing Proportions, whose extreme Sounds do but ill agree, and therefore if they be put together, they offend the Ears.

4. *Compounded Dyads do imitate the nature of Simple.*

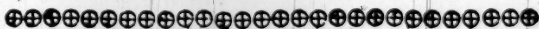
This is true both of compounded *Concordances* and *Discordances*, according to that elegant *Axiom* of *Musicians*. Of *Octaves* there is the same and like *Judgement*. And that for the essential *Similitude* of *dupla*, *quadrupla*, *sextupla*, and *sedecupla* *Proportion*, as 16. 8. 4. 2. 1. Also of compounded *Dyads* the *Order* of perfection and *Crafftitude*, is like unto the *Order* of their simple *Dyads*. Otherwise although the *Composition* of perfect *Concordances* might proceed in *infinitum*: yet notwithstanding because they are not the same *Terms* of *Sound* and *Hearing* (which thing therefore obtaineth in the rest of the *Senses*) it is necessary that we be mindful of *Mediocrity*, lest we create trouble to the *Eare*, by any *Sound* too great or too acute.

5. *It becometh us alwayes to have in our Eye the Radixes of Simple Dyads.*

As it is very compendious, to observe simple only and radical *Dyads* both consonant and dissonant, and then by those to judge of compounded *Dyads*: so also it is very compendious to consider the *Roots* of those simple *Dyads*, according to this *Type*.

Bo.	si.	me.	lo.	ga.	di.	cr.
90.	96.	108.	120.	135.	144.	160.
1.2.4.8.			3.6.		5.	

See before in the *Syntonic Table*. Here, between the *Consonances* of the *Octave* and *fourth*, the *Radix* is the *Fifth*: of both *Sixes*, both *Thirds*. Therefore the *Octave* and *fourth* may be reduced to the *Fifth*; and the *sixth* to the *third*. The Root of simple *Dissonant Dyads* is the second, to which both *Sevenths* may be reduced.



CHAP. VII.

Of the Musical TRIAS.

PRECEPTS.

THE Musical Trias is that which doth arise from three sounds and as many Dyads: otherwise called the unitrissonous Radix.

And it is either consonant or dissonant. The consonant Trias is that in which a third and a fifth doth concur, yet so as that

that it ariseth from two thirds.

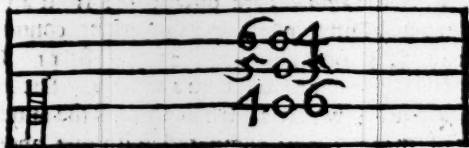
The dissonant Tryas is that which ariseth from seconds.

RULES.

1. *The Harmonical Tryas is the Root of all the Harmony that can be invented,*

And may be called the *unirisonous Radix*: because it doth consist of three *Monads* or *Sounds*, and as many *Dyads*: all of them in that whole *Tryas*, and every one most sweetly concenting one with another, because they are joyned together in a certain Order by just Proportions. Those *Sounds* or *Monads* being three in number, and as many *Dyads*, making this *Trias*, are these. First, the two *Extremes* are distant one from another by a *Diapente*, which is of a *Sesquialtera* Proportion. Then there is one middle, which by his softer sweetnesse doth joyn those two *Extremes*, concenting together by a perfect and masculine *Sound*, and is distant from one of them by a *Disone*, and from the other by a *Semidisone*. There is the Proportion of a *Sesquiquarta*, here of a *Sesquiquinta*. *e. gr.*

Here



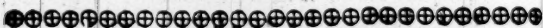
Here 4. and 5. then 4. and 6. then lastly 5. and 6. do conspire. This *unisonous Radix* is the Rule and Measure of all *Consonances*, and is alwayes in one manner. Yet this only is the difference, that in a flat Song it is more imperfect and soft, but in a sharp Song, more natural, perfect, nobler, and sweet. The first hath the *Ditone* above the *Semiditone*, the latter hath the *Ditone* beneath the *Semiditone*. Moreover this *Radix* is either increased or diffused. The increased, is that which hath the *Octave* for his Companion, to excite the more various and fuller *Harmony*. The diffused is that, whose radical parts or voices are not so near unto one another, because dispersed into various *Octaves*. For the nearer the *Voices* are one to another, the more excellent is the *Symphony*. The best Disposition of all look above Chap. 5. Rule 6. where I do write of signed *Keyes*.

2. *The Muscial Trias doth arise both from Arithmetical and Geometrical Proportion.*

Proportion is threefold: First *arithmetical*, which is,

is, when the *numbers* are distant one from another by an equal Difference, and that either continued; as 1. 2. 3. 4. or dis-joyned, as 3. 6. 8. 11. There the Difference is an *unity*, here a *ternary*. Secondly, *Geometrical*; which is, when there is the same Ratio of more Terms compared with one another: and it is either continued, as 4. 8. 16. or dis-joyned, as 2. 4. 8. 16. Thirdly, *musical* or *harmonical* Proportion, ariseth from *arithmetical* and *geometrical*: and it is no other, then a *Symmetry* of *Concords*, which is discerned in the most perfect musical *Triads*; which *Lippius* therefore calleth the *chiefest*, *sweetest*, and *plaineest* *Compendium* of *Metaphysical Musick*. But let us pursue these things further. Musical or Harmonical Proportion is the *Symmetry* or *Equality* of *Concords* which doth arise from Proportion *arithmetical* and *geometrical*; so that three Terms being put, even as the greatest is to the least, so is the Difference of the middle, and the greatest to the Difference of the middle and least. As 3. 4. 6. Here, as Six are the *Duplum* to three: so two (which is the Difference between 4. and 6.) are the *Duplum* to the Unity, which is the Difference between 3. and 4. Such is the proportion in the *unisonus Radix*. 1. 3. 5. Also between 6. 8. 12. For three Terms musically proportional are found from three arithmetically proportional, if the first arithmetically proportional be multiplied into the *second* and *third*, and the *second* into the *third*. So from these three arithmetically proportional 2. 4. 6. are found these three musically proportional. 8. 12. 24. But that numbers are musically

fically proportional, is hence manifest, if in them those three Proportions are found, on which all Musick doth depend: to wit, *Dupla*, or *Diapason*, which doth constitute an *Octave*: *Sesquialtera*, or *Diapente*, which doth constitute a *Fifth*: and *Sesquitercia*, or *Diatessaron*, which doth constitute a *Fourth*. So in these Numbers 6. 4. 3. between 6. and 3. is *dupla*: between 6. and 4. *sesquialtera*: between 4. and 3. *sesquitercia*. I say, three to four, are in the *sesquitercian* Ratio, as the *Diatessaron* System: four to six are in the *Sesquialtera* Ratio, as the *Diapente*: three to six are in the *dupla* Ratio, as the *Diapason* System. And of these the rest are compounded, viz. the *Disdiapason*, &c. This also is of force in *Organical Musick*. For if two Strings equally thick and stretched differ in Longitude by a *Sesquialtera* Ratio, being struck, they will equally sound the Harmony of a *Diapente*: if they differ in Longitude by a *Sesquitercia* Ratio, a *Diatessaron*: if by a *dupla*, a *Diapason*, which vulgarly they call an *Octave*, as a *Diapente* a *fifth*, and a *Diatessaron* a *Fourth*. The same is in *Hollownesse*, or in *Whistles*. From this Operation alwayes except the *unirisonous Radix*, because it is the foundation of other musical proportions.



C H A P. VIII.

Of the Forme of an Harmonical Song.

P R E C E P T S.

THus much concerning the matter of an harmonical Song: now of the forme thereof, which is the artificial disposition of Musical Monads, Dyads, and Tryads, according to the Text, and this is called Melodie.

Melodie is simple, or compounded. That is called Monodie, this Symphony.

Simple Melodie is that which is content with one onely Series of musical voices: as is discerned in Choral Musick, called Unicinium.

Compounded Melodie is that which doth conjoyne more simple Melodies between themselves: and is usually called Counterpoint, as is discerned in figural Musick.

Musick. To which appertaine Songs of two, three, and four voices, &c.

Counterpoint is either simple or coloured.

Simple Counterpoint is that which hath least of Artifice: and may be called pure Composition, whose Rules or Ornaments are the Sounds of Longitude, Latitude, or Crassitude.

Counterpoint coloured is that which hath more of Art: and may be called adorned Composition, whose Rules or Ornaments do respect the Longitude, Latitude, and Crassitude of a Sound.

RULES.

1. *A Musical Text doth give as it were a Soul to an Harmonical Song, as to the Image thereof.*

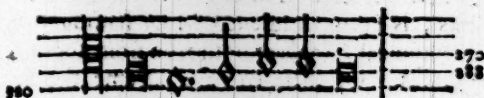
Wherefore seeing the *Image* is such as is the *Archetype*, the practical *Musician* or *Composer* as they call him, is to take care that he understand aright the nature of his Text, in respect of things and words. For an Harmonical Song ought to be accommodated both to things and words. The things may be all divine

vine and humane matters, but chiefly practical, which concern the active felicity of man; the mean to acquire which, is virtue moderating the Affections, which do depend upon things or objects either great, or low, or mean: and those again either pleasant or delightful, or unpleasant and sorrowful, or moderate. Words may be either of prose or verse, yet so as that they be like unto things practical, even, and congruous. So that he ought to know the nature of all Letters, (of which in my *Rhetoricks*.) Moreover, an harmonical Song will rightly express the Text, if the Musician give heed to the *trine Dimension* of Sound, viz. *Longitude*, *Latitude*, and *Crassitude*. For things grave are rightly expressed by long and profound Sounds: light things by short and acute Sounds: Masculine things by sharp Sounds; soft things by flat Sounds: pleasant things by lively and quick Sounds: Sad things by languid and slow Sounds: and mean things by mean Sounds; as we see it falleth out in Poesy.

2. *More Simple Melody, which is called Monadic, is first to be composed.*

A young Composer should first compose the most simple Melodies, which arise not from Musical *Dyads* and *Tryads*, but from *Monads*; or a simple Disposition of musical Voices. *e. gr.* Let this be the Subject, *Laudate Dominum*, which may be sung with this Melodie.

Or



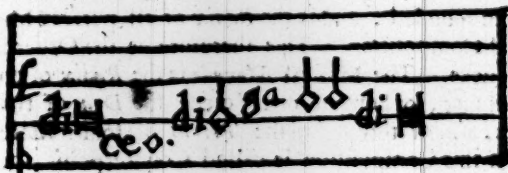
Or after the new manner, which *Lippius* hath, which dependeth upon the *Syntonic* Table, in the 5 Chapter before mentioned.

388. 310. 238. 270. 270. 388.

Laus - da - - - se - - do - - mi - nus.

2. $1\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ 2.

Here the Numbers placed above the Text do shew the *Notes* of the *Syntonic* Table: and the numbers underneath do expresse the measure of the Touch. Therefore such will be the Series according to this new Mode.



3. *Compounded Melodie* doth respect either two, three, or four *Simple Melodies*, cardinal and radical.

Of these the Composition and Connexion of four Me-

Iodies is most perfect. For as a body mixed of four Elements, is a temperament of four humours: So every harmonical *Polyphony* doth arise from four simple Melodies. Of these two are extreme, the *Bass* which is the gravest; and the *Discantus* which is the acutest: and two are intermediate; the one is nearer to the *Bass*, which is the *Tenor*; and the other is nearer to the *Discantus*, which is the *Altus*, according to the Disposition of the four Elements, *Earth, Water, Air, and Fire*. Of which, two are extreme, and as many *Median*, as is noted in our *Physicks*. And this is the Musical *Tetras*, in which the Melody of the *Bass* is fundamental, whence its name is from *Basis* a foundation: or *Bassus* profound: the Melodie of the *Tenor* and *Discantus* (whose vicissitude is very elegant) is principal or regal. Lastly the Melodie of the *Altus* is explemental. This *Tetras*, or Song of four voices, doth comprehend both musical *Monads*, *Dyads*, and *Tryads*, aswell Simple as Compounded, and is the *Radix* of all perfect Musical Composition. This therefore is the Order in Musicks. The Musical *Monade* is the *Radix* of one Melodie, or Song of one Voice: the *Dyas* of two: the *Trias* of three: and the *Tetras* of four: Moreover this Composition is called Counterpoint, because point is put against point.

4. *Pure Composition, or Simple Counterpoint; hath this Artifice.*

1. Pure Composition doth make the four *Melodies*

lodies, more simple, plain, and easie: yet so that it keepeth the *trine Dimension* of Sound. 2. *This is the Rule of the Longitude of a Sound.* Every one of the four radical *Melodies* doth so proceed by his *Monads*, that Notes of more simple value may be added, the *Touch* being every where equal. 3. The Rules of Latitude is this. 1. All the members of all the *Melodies* do make a *Consonancy*; which doth depend upon that *unistrophonous harmonical Radix*, of which mention is made in the foregoing Chapter. And because the parts and productions of that *Triade* are various, the *Consonancys* may be mingled among themselves, yet so as that the peculiar *Ration* of the perfecter of them be kept: for in every *Genus* that which is most perfect is the measure of the rest. 2. All melodies should be compared with themselves most diligently. *viz.* The *Bass* with the *Tenor*, the *Tenor* with the *Alto*, the *Alto* with the *Discantus*, the *Bass* with the *Alto*, the *Tenor* with the *Discantus*, lastly, the *Bass* with the *Discantus*. Or more briefly, the *Tenor* with the *Bass*, the *Alto* with the *Tenor* and *Bass*, the *Discantus* with the *Alto*, *Tenor*, and *Bass*. For so every one compared with another will make six times an excellent Song of two Parts: So that every part of the *Melody* will be adorned with some harmonical *Dyade*. And also in those *Dyades*, varietie is to be used, yet so that the perfecter do rule. 3. *Consonant Dyades* by ascending and descending together may all mutually *antecede* and follow one another, if they be of divers *species*: but if of the same, as the three perfect *Consonancies* with the simple *unison*, they may

not, but the other imperfect *Dyads* may. But more briefly, two simple *Unisons* may not be put together ascending or descending: nor two *Octaves*, nor two *Fifths*, nor two *Fourths*. 4. Those *Dyads* which are nearer in *Crassitude*, will better precede and succeed, then those which are more remote. To which purpose is that saying of *Musicians*, By how much nearer *Voices* are to one another, by so much they make the better *Symphony*. 5. *Monads* should be applied so in all *Melodies*, that every one should elegantly walk in his own *Region*, and commonly of one *Octave*, or *Diapason*. 6. Let the *Bass* always take the lower part or foundation of the harmonical *Triade* in the place of the gravest: but the *Tenor* in the place of the graver, the *Altus* of the acuter, and the *Disantus* of acutest *Monads*: So let them take all three parts of the harmonical *Triade*, viz. The lowest or first, the middle and last. But in augmentation and multiplication the first of the *Triade* is chiefly to be repeated, the last more rarely, the middle seldomest. 7. Let *Melodies* associate by gradual, not by skipping motion. For if every *Melodie* do proceed rather by degrees, then flie violently by greater *Intervalls* and *Leaps*, it will be more grateful to the Ears; yet the *Bass* is allowed to move by *Leaps*. 8. Let the *Bass* be first composed. Because it is the foundation of the *Triads*. Here-to belongeth this Rule. Better is that harmonical *Triade* whose *Basis* is lowest, then those whose *Basis* is in an higher place. But now let us see an Example. Let the Text be *Laudate Dominum*. And this you may thus express in a pure Song. Go to the
Syntonian

Syntonian Table, and from thence pick out Consonancies after this manner.

	2.	$1\frac{1}{2}$	$\frac{3}{2}$	$\frac{5}{4}$	$\frac{3}{2}$	2.
<i>Discantus.</i>	180	192	180	180	180	180.
<i>Altus.</i>	240	240	240	216	216	240.
<i>Tenor.</i>	288	320	288	270	270	288.
<i>Bassus.</i>	360	480	360	540	540	720.

La - - da - - re - - do - - mi - - num.

These Consonancies you may thus transfer into the great System.



La - da - re - - do - mi - num.

Or if you had rather you may thus write the several * Touches in several Cells.

* *Touch* is that which Musicians call *Tactus*, or the *stroke* of the hand by which Time is measured. Or it is the successive Motion of the hand, directing by equal measure the Quantity of all Notes and Pauses in a Song, according to the variety of *Signes* and *Proportions*. The parts thereof are Elevation and Depression; or the Fall and Rise of the hand.



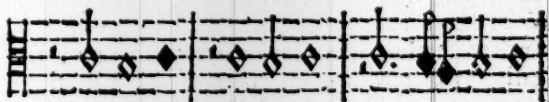
In the latter Example you may observe the *Tenor* to have the same Voice with the *Bass* in the first Cell : and in the Sixth and Seventh, two *Minims* put for one *Semibreve*.

V. *Adorned Composition, or Coloured Counterpoint, is contained in these Rules.*

1. *Adorned Composition* doth constitute a Song harmonical more *broken, florid, and coloured*, therefore more difficult and effectual. Therefore this doth as it were *garnish* these three Dimensions of a Song with various *Gems and flowers* : so that pure Composition may rightly be compared to *Grammar*, which teacheth to speak purely : and adorned Composition to *Rhetorick*, which teacheth to speak Elegantly. 2. *Artificial Licenses* are used in adorned Composition. For as there are allowed Poetical Licenses,

Licenses, which do beautifie *Art*, and not destroy it: so also there are *Melopoetical* Licenses, by which the pure and simple Dimensions of a Song are beautified. 3. These are the Ornaments of *Longitude*.

1. An *harmonical* Song is adorned with the variety of a *Spondaic*, and *trochaic* Touch: and of unequal Notes, especially *Syncopated*. So the *Bass* doth move more slowly, and the other *Melodies* with coloured *celeritie*; which is that in *Musick*, as flourishing is in *Writing*. 2. An *harmonical* Song according to the Nature of the Text, is distinguished by *Rests* and *Closes*. For even as *Speech* is distinguished by *Commas*, *Colons*, and due *Periods*; so ought an *harmonical* Song, according to the nature of the Text, to be distinguished by greater and lesser *Rests*; also by *Closes* *native*, *primaria*, *secundarie*, *tertiarie*, *peregrine*, more perfect, or more imperfect. A perfect *Close* doth consist of three *Voices*; the *antepenult*, *penult*, and *last*: by which the *Close* is chiefly known, and which is to arise out of an *harmonical Triade*. e. g.



The *Primarie Close* is that whose last is the first; the *secondary*, the *supreme*; the *tertiarie* the middle of the *Triade*; but of these in the following Chapter. 4. The *Ornaments* of *Latitude* are these. An *harmonical* Song should be so expressed by *Voice* or *Instrument*, or both together; that according to the

Condition of the Text, an asperous, sharp, swift, full, gentle, flat, submits, or small Spirit, &c. should be heard. 5. The *Ornaments* of *Craffitude* have these *Axioms*. 1. *Varietie* should chiefly rule in an harmonical Song; I say varietie of *Dyad's* and *Triads*, more grave, more mean, more acute, simple and compounded, diffused and augmented, more perfect, and more imperfect, natural and fict. Hence is a various Licence: for in the *Bass* it is lawful to use the last and middle *Monads* of an *Untrifonous Radix*: and *Dyads* prohibited, may antecede and follow one another; and a *Dias* and a *Trias* also *anarmonical* may be used. All which things are done either covertly or openly. Covertly, either by greater *Rests*, or by Sounds not offending by reason of their swiftnesse, or by contrary made Sounds; or by an excuseing *Polyphonie*, or by *Syncope*. Openly for the texts sake, and singular Artifice. v. gr. If the Text command, and as it were compel to manifest some Discord. According to that of the *Logicians*; Contraries placed nigh themselves are the more clearly illustrated. When therefore in Singing some harsh sound is heard, which presently passeth into a sweet harmony, the hearing is therewith more affected, than if there were a current of perpetual Harmony. 2. When the whole harmonical Song is rendred more beautiful by the ornament of *Celerity* and *Syncope*; then chiefly the *Close* should be artificial. 3. *Polyphony* or multiplication of *cardinal melodies* do very much adorn Singing. e. gr. As if there be two, three, or more *Basses*, *Tenor's*, *Alum's*, *Discant's*,
and

and those placed in certain *Quires*, according to the Text and Circumstances. 4. The various manner and motion of *ascending* and *descending*, is granted to principle Melodies and sometimes out of their Proper Regions; as for the *Bass* to invade the Confines of the *Tenor*, or the *Tenor* of the *Altus*. 5. The ornament of musical ornaments is that which they call a *Fuge*. This Ornament at this day is most excellent, difficult, ingenuous, efficacious, and full of Liberty. And this *Fuge* is nothing else then a more artificial repetition and imitation of certain Parts: to which a more Simple Repetition and Imitation is opposed, which also hath his Commendations amongst Musicians. And this is the Example of a *Fuge* in the *Unison* after two *Times*.



Unum est necessarium.

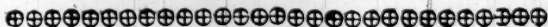


* I suppose that this Example was mistaken or rather mis-placed by the Printer or some other, for I cannot imagine that the Learned Authour would give the Reader Four parts of Simple Counter-point, for an Example of a *Fuge* in the *Unison* after two *Minims*. Of which let this be an Example.



And thus the Composer may continue his *Fuge* as long as he pleaseth.

6. The *Exercise* of a *Fuge* is to begin in an Harmonical *Tryade* onely. For so other forms and *species* of *Fuges* may more easily be apprehended. And for Examples you may look amongst those Principal and Heroick practical Musicians, as *Orlandus* and *Marentius*. Of which two, the one in his *Motets*, and the other in his *Madrigals*, hath brought *Melopoësie* to his highest pitch. There are latter Imitators of these principal *Melopoets*, who notwithstanding ought to have their due praise.



C H A P. IX.

Of the Affections of an Harmonicall Song.

P R E C E P T S.

In the last place the Affections of a muscicall Song do follow, wherewith it is affected and perfected.

And they are either material or formal.

The material Affection of a Song, is that which floweth from the matter thereof. And it is a certain Genus of Modulation.

The formal Affection of a Song, is that which floweth from the form thereof: and is called a musical Trope or Mood; which is a Rule, according to which we direct the course of a Song. Otherwise called Nomus and Tonus. And it is the same in Musick, as a certain kind of verse is in Poetry.

A musical Mood is either simple or compounded.

The simple is primarie or secundarie. That is called Authentick, and this Plagal.

The primarie mood is either legitimate or spurious.

The legitimate is either more natural in a Sharp Scale, or more soft in a flat Scale. And both is threefold; the Ionick, Lydian, Mixolydian, Dorian, Phrygian, and Aolian.

The spurious, bastard, or illegitimate Mood is the Hyper-Aolian, and Hyper-Phrygian.

The secundary or Plagal Mood is also called remisse and submisse: and it is Hypo-Ionic, Hypo-Doric, Hypo-Phrygian, HypoLydian, Hypo-Mixolydian, and Hypo-Aelic.

The compounded or comex Mood, is that which doth arise from simple Moods: when the Authent is joyned with the Plagal Mood: whence it is called the Plagiosyntactical-Trope.

R U L E S.

1. *The mixed Genus of Modulation is now for the most part in use.*

The *Genus* of *Modulation* is certain, according unto which the Song doth proceed in his *Melodies* in a certain *Musical Scale*. Therefore as the *Scale* of *Musick* is simple, or mixed, and that old or new: (also the old *Scale* is either *Enharmonic*, or *chromatic*, or *diatonic*: the new, *Syntonic*) So also the *Genus* of *Modulation* is simple, or mix'd, or compounded: the simple is old or new: Again the old is *enharmonic*, *chromatic*, or *diatonic*. And is also called *Enharmonisme*, *Chromatisme*, and *Diatonisme*. The new is *Syntonic* or *Syntonisme*. The mixed *Genus* of *Modulation* is that which is variously compounded of the Simple. Of the Simple, at this Day, *Enharmonisme* and *Chromatisme* (to wit alone:) partly for their Imperfection, partly for their Difficulty are not in use; but the *Syntonian-Diatonisme*, or *Diaton-Syntonisme*, yet so, that *chromatisme* be often mixed, and sometimes also *Enharmonisme*, if there be need, according to the force and acuracy of the Text,

2. *A Musical Mood is the most certain Rule of a Song.*

A musical Mood is that, according to which a musical Song is limited, and without it would be too ample and wandering. The Mood therefore doth contain Melody with certain Limits, and as it were Bounds of an harmonical *Trias*, in the Compass of an *Octave* or *Diapason*; so that wholly it doth continually proceed in a due order, from the beginning, by the middle, to the end, for the artificial expressing unto, and imprinting upon the hearers the virtue of the Text.

3. *The Doctrine of Moods is contained in these Rules.*

1. *We cannot moderate or modulate any Song, unlesse we first know the Tone thereof.* The *Tone* is known by the end, according to *Rule*: in the end it is seen of what *Tone* it is. The end also of a Song is judged by the musical Mood, which therefore by some is called a *Tone*, according to this Diversity of *Tones*, there are also divers *Melodies*. For as one *Tone* is in *ut*, and another in *re*: So also are the *Melodies*. Yet here you must remember, that every *Tone* or *Mood* may not only be known by the end, but also by the beginning, and middle or Division thereof: also by his skipping. 2. *A musical Mood, is an Octave*

Octave mediated by his neighbouring voice. Otherwise it is defined to be the Species of a Diapason, which is made up of a Diatesseron and Diapente. 3. The Simple Mood is that in which one harmonical Triade only doth rule with his Octave, in respect of the Text and more simple Affection. 4. All the Moods are six, even as there are six voices. *ut. re. mi. fa. sol. la.* The Ancients had only four Moods, the first, second, third, and fourth: to which now the four final Voices do respond. *re. mi. fa. sol.* These four Moods the Grecians call *Authentic*, and the Latines *herile* or *Clamorous*. For they have, as I may so speak, a greater Authority of ascending then the rest. But the Latines more narrowly considering the ascension and descension of every Tone, have constituted to every Mood a subjugal Mood; and those four they call *Plagal*; also subjugal, servile, and the like. And these descend more then the first. And hence arise the eight Moods, by which every Song is governed *per Arsin & Thesis*, by rising or falling. But our Latter Musicians more diligently considering the variety of Tones, have constituted twelve legitimate Tones. *viz.* six Authent, and as many Plagal. For as there are six Voices. *ut. re. mi. fa. sol. la.* so also there are six Authent, and as many Plagal, which are vulgarly named by strange Names of Nations: I say, of those Nations who commonly were delighted with them. And to these twelve legitimate Tones, two illegitimate were added. Unto all which, various mixed Moods may be added. 5. An Authent Mood is primary, the Plagal secondary, and this doth not differ from that, but

but in respect of subjection, when it is called *Hypotropus*, remits and submits, because the harmonical Mediation of the *Octave*, which doth agree with the primary, is changed into the arithmetical, by the inversion of the fourth beneath the fifth with the *Triade*. 6. Concerning the Excellency and Efficacy of the musical Moods, there are diverse opinions. *Cassius in politicis lib. 8. chap. 5.* saith thus, *Musick is various and manifold. One kind is humble and remiss, as the Lydian; another is vehement and more moved, as the Phrygian; another is more moderate and mean which is called the Doric; and a little after, that grave, divine, and oraculous Musick, called the Doric, allureth the mind to the study of Wisdom and true Piety.* This, both the heathen of old used in their Synagogues, and Christians now use in their Churches. For in it there is a certain imitation of Celestial Harmony, by which as by a sweet and wholesome Medicine, the Diseases of the mind are cured, Vices are dissipated, Cares are lessened: and the Dew of Divine Grace is leisurely, and by little and little distilled. And in the end of the Chapter, he saith, *that the Doric Musick hath respect unto Virtues, and divine Inspiration; and that it forceth men into Extasie of mind, and oblivion of the world; so that it driveth away evil Spirits, which he proveth by the Example of Saul.* Lippius in his musical Synopsis, saith thus: *the most natural and chief of all the Moods in these times, is the Ionic, with his secondary the HypoIonic.* (against which many ancient and modern Musicians do speak.) But let us look upon the nature of the Moods in Specie. 7. The na-

ture of the *Authent Moods* is this. The *Authent Mood* hath his final Key in the *Diapente* below, and is divided harmonically. And that is called harmonical Division, where the *Octave* hath the *Fifth* beneath the *Fourth*, thus; First the *Ionic* doth occur, which is by *Lucian* called *Glaphyrus*. i. e. pleasant; and by *Apuleius* wanton. And now it is much used. It runneth between *C.* and *c.* is divided in *G.* and endeth in *c.* In a flat Song it runneth between *F.* and *f.* and is divided in *C.* and endeth in *f.* It is most agreeable to *Iambic's* and *Trochaic's*. Then the *Dorian* Mood runneth between *D.* and *d.* and is divided in *a.* ending in *d.* but raised, or in a flat Song, hath his course between *g.* and *gg.* and is divided in *d.* and endeth in *gg.* By *Lucian* it is called grave, and by *Apuleius* warlike. It is most fit to sing to heroic Verse; for it hath wonderful Gravity with Alacrity. The *Phrygian* Mood hath his course between *E.* and *e.* and is divided in *mi* which is in *b.* ending in *mi*. In a flat Song it runneth between *a.* and *aa.* and is divided in *e.* and endeth in *aa.* *Lucian* calleth it *Entheus*, *Apuleius* religious. For it hath the severe Insultation of an angry man, whence it is called *Scotius*. It is impetuous, accommodated to warlike Affairs. It is also *Iambic* and *tragic*; distracting and ravishing the mind, putting it as it were out of it self, as *Aristotle* saith, 8. *pol. c. 5.* and *Plato 3. de Instit.* The *Lydian* Mood doth take his course between *F.* and *f.* is divided in *c.* and endeth in *f.* in a flat Song it runneth between *b.* and *bb.* and is divided in *f.* and endeth in *bb.* It is harsh, threatening; and merry. As *Plato 3. dial. de rep.* who
con-

condemneth the *Lydian* and *Ionic Harmony* as sottish. This Mood is sharp, and according to *Apuleius*, threatening: and to *Lucian Bacchiem.* q. raging. The *Mixolydian* Mood runneth between *g.* and *gg.* and is divided in *d.* and endeth in *gg.* In a flat Song it runneth between *c.* and *cc.* and is divided in *gg.* And endeth in *cc.* It moveth the Affections, and rendereth them sorrowful and contracted; because it is mingled with the *Dorick* gravity. Lastly, the *Æolian* Mood runneth between *a.* and *aa.* and is divided in *e.* and endeth in *aa.* being raised up; it runneth between *d.* and *dd.* and is divided in *aa.* and endeth in *dd.* It is mild and very sweet, being sung to *Lyrick Verses.* 8. *The nature of the Plagal Moods is this.* This Mood is called *Plagal*, as if we should say oblique or inverted; which hath its final Key in the lowest part of the fifth, but above the fourth: and is divided arithmetically. That Division is by *Musicians* called arithmetical; Where the *Octave* hath the fourth beneath the fifth; which is the more unpleasant. This Mood borroweth his name from the Authent, *Hypo* being prefixed thereunto, First the *Hypoionic* Mood runneth between *r.* and *g.* and divideth and endeth in *C.* being raised up, it runneth between *C.* and *c.* it is divided in *F.* In this Mood, the *Molity* of the *Ionic* Mood is rectified. The *Hypodorian* Mood runneth between *A.* and *a.* is divided and endeth in *D.* being raised up between *D.* and *d.* is divided and endeth in *g.* It hath a harsh kind of Gravity, and flattereth not. The *Hypophrygian* Mood runneth between *B* sharp, and *b* sharp, is divided and ended in *E.* being raised up, it runneth between

tween *E.* and *e.* is divided and ended in *a.* This Mood is humble, and inclineth to weeping, as making a sorrowful Complaining and pitiful Lamentation. The *Hypolydian* Mood runneth between *C.* and *c.* is divided and ended in *F.* being raised up it runneth between *F.* and *f.* is divided and ended in *b flat.* It expresseth a kind of sorrowful Continency, and is called the pious, and as it were puling Mood; and stirreth up tears. The *Hypomixolydian* Mood runneth between *D.* and *d.* is divided and ended in *g.* being raised, it runneth between *G.* and *g.* is divided and ended in *c.* In it there is a certain natural jollity. The *HypoÆolian* Mood runneth between *E.* and *e.* is divided and ended in *a.* being raised up, it runneth between *a.* and *aa.* and is divided in *d.* 9. *This is the nature of the illegitimate Moods.* An illegitimate or bastard Mood, is that, which cannot aptly be divided into the fifth and fourth: but into the *Tritone* and *Semidiapente*. And it is either the *HyperÆolian* Mood, or the *Hyperphrygian*. The *HyperÆolian* Mood is the illegitimate of the *Authent*; which runneth between *b.* and *bb.* having below a *Semidiapente*, and above a *Tritone*. The *Hyperphrygian* is the *Bastard* of the *Plagal* Mood, which runneth between *F.* and *f.* having a *Tritone* below, and a *Semidiapente* above. 10. *Every simple Mood, out of his own proper harmonical Triade, doth give to every harmonical Song, peculiar Ornaments.* To wit, *Fuges* and *Closes* proper, primary, secondary, and tertiary. Unto which, strange *Closes* from a strange *Triad* may be added; if they be well taken. The primary *Fuge*, and also the

Close is from the first of his proper *Triade* : the Secondary from the highest : and the Tertiary from the middle. 11. Every Mood in respect of his Effect and Affection, doth follow his *Radix*. i. e. his *Monads*, *Dyads*, and *Trias* of which he doth consist. Hence it is (saith Lippius) that one Mood is very cheerful and lively ; as the *Ionic* very much, the *Lydian* devoutly ; the *Mixolydian* moderately ; another flat, soft, sorrowful, and grave, as the *Doric* meanly ; the *Æolian* lesse ; and the *Phrygian* exceedingly. 12. A compounded Mood doth proceed from simple Moods, and from it a Song is called mixed. A Mood is compounded of Moods neer unto him, as the *Ionic* and *Hyper-Ionic* which is often seen : or of Moods wholly diverse, as the *Ionic* and *Doric* ; which is lesse used. This mixture dependeth more or lesse upon the affected Text. 13. The Mood in instrumental Musick, by the Mediation of *Chromatisme*, is transposed either to the fourth above ; or, which is the same, to the fifth beneath. Hence, from a regular or sharp Mood, an irregular Mood is made, which is called *mollis*. It is transposed also to the second, third, or other Interval : So that one Mood is changed into the nature of another ; as the *Lydian*, into the *Ionic* : the *Hypolydian* into the *Hypo-Ionic*. 14. Alwayses the two proximate Moods (the Authent with his Plagal) have the same fifth, and the same fourth. Thus,

1 & 2.	Quartam. Quintam.	re sol. re la.
3 & 4.	Quartam. Quintam.	mi la. mi mi.
5 & 6.	Quartam. Quintam.	ut fa. fa fa.
7 & 8.	Quartam. Quintam.	re sol. ut sol.
9 & 10.	Quartam. Quintam.	re sol. re la.
11 & 12.	Quartam. Quintam.	ut fa. ut sol.

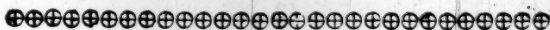
But here let us place *Schemes* to illustrate this thing.

Authent Moods in a sharp Song.

The diagram consists of a grid of notes and accidentals, with a list of moods below it. The grid is organized into four rows of notes, each with a corresponding mood label below it. The notes are arranged in a sequence that corresponds to the moods listed below. The moods are: Ionius, Dorius, Phrygius, Lydius, Mixolydius, and Aeolus. The notes are arranged in a sequence that corresponds to the moods listed below. The notes are arranged in a sequence that corresponds to the moods listed below.

Ionius	Dorius	Phrygius	Lydius	Mixolydius	Aeolus
--------	--------	----------	--------	------------	--------

v. gr. the Compass of the *Ionic* Mood in a *sharp* Song, is *sol. vt.* in a flat Song *fa. vt.* the Compass of the *Dorian* Mood in a *sharp* Song is *re. la.* in a flat Song *re. sol.* and so of the rest.



CHAP. X.

Of Special Musick.

PRECEPTS.

THUS far of the general part of Musick: the special remaineth, concerning the various kinds of Musick, which are taken either from the matter: or the Character of the matter: or the Organical Cause: or Artifice of Musick.

First, from the Matter, Musick is either sacred or civil.

Secondly, from the Character, Musick is either great, or mean, or humble.

Thirdly, from the Organical Cause, Musick is vocal, instrumental, or mixed. That is made by the voice of man, the next by divers Instruments, and this

by the Voice and Instrument together.

Fourthly, from Artifice, Musick is either Choral or figural. That doth in his Notes obserbe an equal measure, and from the Authoꝝ is called Gregorian: and this is either old or plaine.

This is such whole unequal Notes do vary their measure, and from the Authoꝝ is called Ambrosian.

Also mensural, and new Musick.

RULES.

1. *The asper Artery [or Windpipe] of a man, Vocal by the Tongue, is the Law of all Musical Instruments.*

Lively or Vocal Musick as they call it, seeing it is the Cause of Instrumental Musick, without Controversie is the noblest of all. And if it be joyned with instrumental Musick, it is an incredible Means of moving the Affections and Sences. Also Vocal Musick is called the Exemplary or paradigmaticall Cause of Instrumental Musick: whatsoever they talk of *Pythagoras*, that he found out Musick by the striking of divers Hammers upon an *Anvile*.

2. *A Song which may be sung both by Voice and Instrument, is various.*

To this belongeth a *Motet*, *Madrigal*, *Innrade*, and bound *Fuge*: and this of one harmonical *Triade* only, or of more. Also the *unisonous Simply*, or *multisonous*, and that through the *eight*, *fifth*, *third*, &c. Also to these may be referred Songs of one, two, three, four, or five Voices, and likewise Songs of many Voices, or *Polyphoniacs*: which for their perfection may swell to forty or more *Melodies*. Of these the Song for one Voice is an harmonical Song potentially: the Song for two Voices, is the first harmonical Song, in Act; but more imperfect: but the Song for three Voices is perfecter: and the Song of four voices most perfect.

3. *Musical Instruments may conveniently be reduced to these two kinds.*

For some are called *Psbelaphetus*: and others are called *Pneumatic*: and these are called *Crosta's*, which only by striking do make a *Concent*, and by others are called *Entata*. These are also called *Empneusta*, and they are moved with the *Fingers* and *Wind*. Various kinds of *Instruments* are comprehended under these. As the *Whistle*, *Pipe*, *Cornet*, *Sackbut*, *Trumpet*, *Bagpipe*, and the like, which are blown. Also the *Clavichord*, *Psaltery*, *Pan-*
dore,

dore, Cithren, and the like, which are struck with strings: So also the *Lute*, *Harp*, *Lyre*, *Tabor*, and other Instruments struck with strings. The *Cymbal*, *great Bell*, and others struck with Brass. Also the musical *Triangle* struck with Iron or Steel. Or the *Wooden Craticle* (by the *Germans* called *einstrosidel' item ein holzerngelachser*) struck with Wood. And lastly the great Wind Instrument or *Organ* which is both blown and struck together. And here it will be necessary to lay down certain *Aphorismes* concerning musical Instruments. 1. *The Canon, Mother, and Radix of all Instruments, is the Monochord*: which is an Instrument most simple, and intire, made of one or more *unisonous Chords*; and may be divided into how many, or how great parts you please, according to radical numbers by the *bipartition, tripartition, quadripartition, &c.* thereof. And we may observe fully in this Instrument, all the proportions of all musical numbers. And this will be the most simple Example of a *Monochord*, if you shall put one Chord upon a fit peice of Wood; into so many parts as you shall divide the Wood, certain Notes being added, so many distinct Sounds there will be, if you apply your finger to the Chord. 2. *The Wooden Craticle is next in plainesse unto the Monochord*. This is made ready without any trouble, if a *Wooden stick* being very drie, be proportionably divided into many parts; which according to the Order of Proportions, being bound together by links made of a string, do afford harmonical Sounds, if they be struck with a stick, and put to straw bound together. 3. *The Lute is the chiefest of all Instruments*

ments of Musick. For no Invention of ancient or modern Musicians did ever make a more grateful consent. 4. In Clavichords and the like Instruments there is the most evident Reason of the Scale of Musick. Those Instruments do consist of certain *Tetrachords*, which are double, ordinary, and extraordinary. The ordinary *Tetrachords* are four. The first is called *Hypaton* i. e. of greater and graveſt Chords: from *B.* to *E.* and this is the *Bass*. The Second is *Meson*, i. e. of Means: from *E.* to *a.* and this is the *Tenor*. It is called *Meson*, because in old time when there were only three *Tetrachords*, (the *Tetrachord Hyperbolæon* not being added) it was in the midst. The third is *Diexugmenon* of distinct Chords, which is disjoyned from *a.* by a *Tone*, which is from *b.* to *e.* and this is the *Altus*. The fourth is *Hyperbolæon* i. e. of excellent or most acute Chords: from *e.* to *aa.* and this is the *Discantus*. The extraordinary *Tetrachord* is *Synemmenon*. i. e. of connexed Chords; so called because it is joyned with *a.* and it extendeth from *a.* to *d.* There is also a threefold progression of these *Tetrachords*, viz. *diatonic*, *enharmonic*, and *chromatic*. The *diatonic* progression is by a *Ditonus* and lesser *Semitone*. The *enharmonic* by a *Ditonus* and two *Dieses*, viz. the greater and lesser *Diesis*. i. e. the half of the lesser *Semitone*. And the *chromatic* progression is made by the *Semiditone*, and greater and lesser *Semitones*. (vide triple Scale chap. 5.) This Doctrine will be clearer, if the Doctrine of Sounds, or musical Intervalls, or Moods (as they vulgarly call them) be rightly propounded. For there are in all Ten Moods according to a known Song.

Song. *The Moods are three times three, and one, by which every Song is made.* sc. *The Unison, Semitone, Tone, Semiditone, Disone, Diatessaron, Diapente, Semitone with a Diapente, Tone with a Diapente, Diapason.* And whosoever shall diligently consider these Moods, shall easily know the *Ration* of musical *Intervalls*, and so of all *Harmony*. And the Artificial Division of these Moods is this. A *Mood*, or rather a *Sound*, is an *Intervall* or *Distance* from another, and that is either equal or unlike. An equal *Mood* is that which is in the same Degree, and is called the *unison* or *Basis*. Also an *Unison* is the conjunction of two or more Notes in the same place. e. gr. if *sol* be repeated in the same Key, or *la*, the *Mood* is unlike, in which there is both *Asis* and *Thesis*. i. e. *Elevation* and *Demission* of the *Sound*. And this is either continued or interrupted. A continued *Sound* is a *Tone* or *Semitone*. A *Tone* is the skipping of a *Voice* from a *Voice* by a perfect *Second* sounding strongly. Hence it is called a *Second*. In the progression of six musical *Voices*, every next is distant from his next by a *Tone*. e. gr. *ut re*. except *mi fa* joyned together; which *Connexion* is called a *Semitone*, which is the skipping of the *Voice* into a *Voice* by an imperfect *Second*, sounding flatly: as is the *Leaping* from *mi* into *fa*, and again from *fa* into *mi*. scil. the next. By the *Greeks* it is called *Hemitone*: and by *Musicians* the lesser *Semitone*. The interrupted *Mood* is discrete by certain *Intervalls*. The first is *Diapason*, as the *Ditonus* and *Semiditonus*. The *Ditonus* is a sharp and perfect third: and doth consist of two *Tones*, as is between *ut mi*. *fa la*. otherwise

therwise called the *Third*. The *Semiditonus* is the Intervall of the Voice from a Voice by a flat and imperfect Third. As between *re fa. mi sol.* The Second is *Paraphonus*. As a *Diateffaron* and a *Diapente*. A *Diateffaron* is the leaping from a Voice into a Voice by a fourth. As is between *ut fa. re sol.* and *mi la.* otherwise called a fourth. The *Diapente* is the skipping of a Voice from a Voice by a Fifth: called vulgarly *Quadrimate* and *Quinta*. As between *ut sol. re la. mi mi. fa fa.* And again a Fifth is either compounded with a *Tone* or a *Semitone*. Hence a *Tone* with a *Diapente* is a perfect Sixth, as is between *ut* from *c* to *la* in *a*. The *Semitone* with a *Diapente* is the imperfect Sixth. As between *mi* from *e* to *fa* in *e*. and contrarily. The Third is *Antiphonus*, as the *Diapason*: which is the Distance of a Voice from a Voice by an Eighth; whence it is called an *Octave*. And it is made seven wayes i. e. from every Letter to his like; as from *A* to *a*. from *a* to *aa*. &c. To these *Moods* or *Intervalls* there are four prohibited *Intervalls* opposed by vulgar Musicians. 1. A *Tritone* which containeth three *Tones*, and is made from *fa* to *mi*: 2. A *Semidiapente* which passeth from *mi* to *fa*. containing two *Tones* and as many *Semitones*. 3. A *Semidiapason*, which is an *Octave* containing three *Semitones* and four *Tones*, reaching from *mi* to *fa*. 4. A *Disdiapason*, which is an *Intervall* by a Fifteenth; within which there is a Limit appointed to the Voice: beyond which it may not wander; and if it wander it is but feigned; For if more Distances then a *Diapason* occur, they will equisonate with the former *Distances* in the *Octave*.

Conclusion.

Conclusion.

AND this is the *MUSICAL TEMPLE*, whose Foundation is *Harmony*, or *Concord*: whose Covering is honest *Pleasure*: whose Wood and Stones are the Harmonical *Monads*, *Dyads*, and *Tryads*. That thou mayest not only enter this *Temple*, but build thy self; after the diligent reading of this *Synopsis* which we here present thee with: Consider those *melopoetic Classic's* and prime Musicians, *Orlandus* and *Marentius*. But chiefly exercise thy self in the *Analysis* of many examples; and then from that betake thy self to the musical *Synthesis*.

FINIS.

